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ADDRESS, BENJ. BRYAN, PUBLISHER, 97 Chesnut St., Saint Louis, Mo.

HIGH CULTURE OF LAND.

There is one consoling thought on this subject! You can never wear out the constitution of the earth; it is more than "iron," it can never be broken down. A beast may be over-fed and over-worked, and thus prematurely worn out; a horse's usefulness may be shortened by straining his capacity: but the earth "abideth forever."

According to the manure and attention soil receives, will be its productive capacity. The act of abstracting this is an act of the vegetable, not of the earth; that is quiescent. It is the vegetable that does the work; and this work may be carried on to the highest extent by an infinite variety and succession of crops, with manure, without the least effort on the part of the earth. Here then is a chance for the farmer's skill—a safe basis. Philosophy must be strictly brought to bear to insure success, for Nature will never vary the least in her laws to gratify a man's whims. She knows nothing of chance or good luck. She only follows out her orders given by the Creator, namely, obedience to his laws.

Now, as there are various ingredients necessary to vegetation, (that is, food for the plant to feed on,) so it is necessary to have these in the soil. And, as different plants require different food, it will at once be seen that certain plants, grown for a length of time, will take up those properties which form their nourishment; and hence it is that the same grain will not do well after a number of years, unless the soil is very rich and deep. A new plant on this same soil will do well, or better, than the previous grain which ran out, for the very reason that the ingredients which the former plant did not take up (because it did not need them) are food adapted to the other. It is here where originates the succession of crops. Does the reader see that this (the succession of crops) is indispensable? It is. And it becomes him to know just what grains should follow each other. This is not yet fully known. We have observed that peas will not bear repeating. They will sprout, and occupy the ground, but never come to maturity. That is our experience on ordinary soils, and the experience of our neighbors. Hence we avoid sowing peas the second year on the same ground.

But the *mere* succession of crops is not the purpose of this article. We wish to enforce the importance of a variety of crops the *same* season—get all out of the land we can. Let crop follow crop. Thus the land will be occupied the whole season, and made to do the work of two or more seasons. The difference, in maturing, of the various grains and vegetables, will

enable us to do this. Thus the early grasses permit of two cuttings. A field of June clover is cut for hay, and then left for seed to be cut in the fall, the seed, thus obtained, sometimes paying for the land in one crop, while the first cutting affords the usual crop and fair profit. Buckwheat may follow a crop of hay. Thus radishes, and other garden stuffs that mature early, are followed by quick-maturing plants, and then succeeded by others. Turnips may be sown late, as a second or third crop. But the soil must not be neglected. It requires a rich soil, and good attendance to do this successfully. Once enriched, however, it needs less attendance afterwards. The point is, to get your land a *deep*, rich, mellow soil, properly balanced with lime, ashes, manure, and the many things that make up a good soil. Rich soil, in itself, has the mellowing principle; yet it requires careful handling. When worked wet, it will be seriously injured, become harsh, packed, and lose that friable, live nature peculiar to good soil. Neither should it be worked too dry.

In this way a piece of land may be made to yield ten times the amount of land in general, with but a little more labor, and that much more agreeable.

We have spoken of the succession of crops. Crops also may be mixed; though here much discretion must be exercised. Some farmers mix pumpkins with corn, often to the great detriment of the grain. Beans are less objectionable; and turnips it is said (we have never seen it tried) may be raised, a fair crop, with little harm to the corn, the seed scattered in after the last hoeing in midsummer, when the corn is well advanced. Still there must be less corn, though, counting the two crops, there may be, and doubtless is, a gain. The two will mutually protect each other; the corn shade the herb and the herb shade the ground, in the great heat of summer. Perhaps the main objection is, that the turnip abstracts strength from the soil, which the corn needs. The remedy is, give greater richness to the soil.

In farming, as in other pursuits, the shrewdest men reap the profits. They do this by their superior managing. They take the many grains and vegetables, and the various capacity of the soil, and then make calculations. Of course much is experiment; yet, in the end, it will prove a gain.

A man should make a garden of his farm—a garden on a large scale. A farm of a hundred acres should be cut down to fifty, or even less if you please. That is the cultivation in England, in Europe, and somewhat in this country, and is increasing: and will any one say those who adopted it will ever return to the old method—of raising from ten acres what may be raised from two, to say nothing of the stigma attached to the old method?

With land thus reduced in acres, the summer's work of a hundred acres applied to it will make you a garden. Instead of planting and sowing twenty or thirty acres, you double and triple your crops so as to get the same amount of land covered. Thus two crops of ten acres are equal to one of twenty, three to one of thirty. A garden of ten acres will do miracles for a man. There is hardly an end to the productiveness of soil when properly managed—we don't mean made rich by barn-yard manure alone. A heap of manure is evidence of this. A crop can't be raised in a heap of manure. It wants a balanced soil, all the ingredients in a healthy, properly adjusted and tempered condition.

But it is not the purpose of this article to treat of manures and their application; but, as we have said, to impress on the mind of the reader the advantage of the multiplicity of crops the same season. Most farmers, we presume, have seen more or less of this. It only requires practice and careful thinking. It may as well be done here in the West as in the East, or in Europe. Europe would starve were she to raise but one crop a year, so dependent is she upon rotation. It is different as yet here, where there is plenty of land. Still this is no excuse for good culture—it is only a way to live without it. But, a beginning! that is so hard to make. Yet it must be made some time; and those that introduce it get the first benefit. Try it; experment on a small scale first. Give a part of your meadow a top-dressing of manure, lime, and ashes this fall. Roll it with a heavy roller in the spring. Cut your grass when in blossom—not later, earlier rather—unless it be Timothy when a little later is advisable.

TO BE REMEDIED.—One thing we are sadly deficient in: we lack variety of culture—not in mode, but in articles. It is an *accommodation* to raise what is wanted. The many kinds of roots and garden sources, wool, flax, sugar (beet and sorghum), varieties of stock, &c. These introduced will certainly make life more pleasant, and, in the end, not put back the important drift of gathering means. It will rather stimulate and augment them. Let us introduce, as much as possible, variety. It needs but a beginning. F. G.

THE ARMY WORM.

Ed. Valley Farmer: I have just taken up the June number of the *Valley Farmer*, and read the communication of Mr. E. S. Washington, on the subject of the Army Worm. Mr. Washington alludes to an editorial article published in the July number of the *Valley Farmer* for 1861. In that article is set forth the only manner in which the Army Worm is propagated, which is like that of all other insects belonging to the same genus, viz., in the last or perfect state.

Mr. Washington is undoubtedly correct in his statement, that he found large numbers of living insects or worms in the Army Worm, which he supposes to be the young worms of the parent Army Worm.

If Mr. W. has read attentively the former volumes of the *Valley Farmer*, since 1855, he will see it frequently stated, that probably nearly every species of insect which depredate upon the crops of the farmer have their *parasitic insect enemies*. But for this wise provision of Nature, in permitting one insect to prey upon another, the world would be speedily reduced to famine, from the loss of our farm crops.

Every observing farmer has seen large numbers of little white cocoons attached endwise upon the backs of the common Tobacco Worm. Each of these cocoons contains the chrysalis of a minute insect, the egg of which was deposited in the back of the Tobacco Worm by a small fly. These eggs in due time hatched, and each brought forth a worm which lived upon the juices of the larger worm, and when finished its probation, it came to the surface and attached itself to the back of the worm, to pass through its future transformations to the perfect insect. And in a similar form all the insect tribes have their parasitic enemies.

In Europe, the Wheat Midge, so destructive in the Eastern States of the Union, is kept in check by its peculiar insect enemy. But, until within a year or two this insect check upon the Wheat Midge has never been discovered in this country. Efforts have been made for some time to import it from Europe.

It is the parasite provided by the Wise Creator that Mr. Washington has discovered in the Army Worm, and has no other relation to it than its special enemy.

I should be glad to enlarge upon this subject, but at present have neither the time nor the health to do so. H. P. B

Lexington, Ky., June 9, 1862.

P.S.—Until after I had written the foregoing I did not observe the remarks of Mr. Walsh. As we have both arrived at the same conclusions, you are at liberty to publish this or not. H.P.B.

[Written for the Valley Farmer.]

MAY WHEAT.

This variety of wheat has again proven its superiority over all other kinds grown in this county, and, as far as the writer can learn, all over South-east Missouri. Why this wheat is not more generally cultivated in Missouri and Illinois is something very strange, and can only be accounted for on the supposition that it has been somewhat difficult to procure *pure seed*.

It is only within the last two or three years that anything was said or written in the Northern and Eastern States about "Early May Wheat," and then they soon got up a controversy whether the earliness of the May Wheat was an inherent quality of the variety, or whether it was owing to its being grown in the South. Whatever may be the physiological fact, one thing is very certain in actual practice (which in my opinion settles the question), that May Wheat brought to this county more than twenty-five years ago, and sowed from year to year, still retains its early maturing property. So the writer concludes it is an *inherent* characteristic quality in the variety—whether grown North or South—not to be found in any other sort of wheat ever grown in Missouri.

The first the writer ever heard of May Wheat, was some twenty-five years ago. An old German farmer, living in this county, was in the habit of going South every spring in April with dressed hoops which he prepared in winter; returning from one of these trips in the latter part of May, the boat stopped at a farm somewhere between Memphis and Vicksburgh for wood; the old man went on shore and found some persons harvesting wheat which was fully ripe, and thinking it must be a new kind that would prove valuable at home he got permission to hull a few quarts, which he brought home in his handkerchief. He carefully sowed his little parcel of wheat, and from it got several bushels. It ripened about the first of June. From this small beginning, hundreds of bushels were planted the third year in this and the adjoining counties of Perry and Cape Girardeau, and to this variety of wheat may be attributed the high character which the flour of all the mills along the river where this wheat is grown, has attained.

For many years back, however, the May Wheat has not been pure and clean; that is, it has got mixed with Pennsylvania and other red wheat to a considerable extent, and the consequence is that the May Wheat has to stand a

week or more longer to wait for the other to get ripe, thus causing a serious loss, both in quality and quantity.

In the fall of 1860, the writer having a meadow that was very foul with cockle, burr, and other weeds, concluded to break it up and try a crop of May Wheat; but no where in the county could he find any pure seed, and having often heard the farmers say that they would pay almost any price for pure seed, he concluded to send South for seed; he was very fortunate in getting a very fine lot, plump and perfectly pure—it could not possibly have been more so. This seed was sown on the 20th of October, with one of Cahoon's seed-sowers, at the rate of one bushel to the acre, which was a great deal too much. The wheat was ready to cut on the 9th June, but was not harvested until the 12th and 13th, owing to delay in getting the reaper from St. Louis. There was a fraction over eighteen acres in the field, and the yield was 600 bushels; a little over 30 bushels to the acre. Had the wheat been put in about first of October, instead of the 20th, it would doubtless have been ripe a week earlier or about 4th of June. As it was, it was ripe full two weeks earlier than any other variety grown in the county.

The great characteristic of this variety, is its earliness, a quality which it seems to retain at least as far North as 41°, and by its earliness has escaped that great pest of the wheat crop in New York—the midge. The great farmer of New York, John Johnston, thinks highly of it, having tried the experiment and found it to escape the midge. Here, in South-east Missouri, it is remarkably free from disease and insects, never having been injured by either. The crop above mentioned was about 1st June, '61, attacked by the "Army Worm," which went through the field in solid phalanx from South to North, and stripped every stalk of its leaves, not harming a single grain, which was supposed to be too hard (that is the head was brown and nearly matured)—at all events no harm was done, but on the contrary a benefit, as the straw was too rank, and if it had retained all the blades would have been tedious to thresh.

Last fall, about the last of October, the same piece of ground was again put down in May Wheat. It was put in so late because immediately after harvest in June a crop of Northern corn was drilled in on a portion of the field and Hungarian grass on the balance. Only three pecks of seed were sown to the acre, and this was again too much, as the wheat is now thicker than is desirable. The writer is convinced that about thirty-six lbs. is the proper quantity for rich ground, and about forty-one lbs. on ordinary fair wheat land. Notwithstanding the present crop was put in so late, it will be fit to harvest by the 14th June. Nearly the whole of last year's crop was sold for seed at an advance of about thirty cents per bushel over the price of best wheat. Unfortunately our farmers are not careful enough to prevent mixing with other wheat. A great many who got of this pure seed, have sown it in same field with other wheat, and of course it will soon be mixed again.

Our millers prefer the May Wheat to any other variety, it does not make as white flour as some other kinds, but has that pale golden cast which city bakers always seek for in selecting a lot of flour. The flour of May Wheat commands the very highest price in New York and Boston, both for home consumption and shipping to hot climates. The farmers above St. Louis will have an opportunity to get of this pure seed, as the writer intends to send his present crop to St. Louis in July to one of the seed stores, due notice of which will be given in your journal. X.

St. Genevieve, June 8th, 1862.

PRACTICAL ENTOMOLOGY.

DEFINITION.—Entomology is that science and department of Natural History which treats of insects. Insects are animals without backbones, therefore termed invertebrates. Their principal character consists in the division of their bodies into jointed rings or sections. Each perfect insect has six feet and legs. The chief portions of the body of the perfect insect are the head, thorax and abdomen; the head is furnished with the eyes and feelers or antennæ; the thorax with the legs and wings, and the abdomen with the piercer, sting, &c.

Insects arrive to their adult or perfect state through a series of changes called metamorphosis, viz: first the *egg*, second the *larva*, third the *pupa*, and fourth the *imago*, which last is the perfect or winged insect. From the egg hatches a worm or caterpiller, which, after a period changes to a pupa, when it is dormant; after another period it throws aside the pupa covering and comes forth a perfect insect, which deposits eggs which pass through the same change. For convenience insects have been divided into various orders and classes. The first division is termed *orders*, then sections, then families, then genera, then species or individuals.

As I shall have occasion frequently to name the orders, I will give them with the name of some well known insects of each order, for reference.

ORDER 1. *Coleoptera.*—The beetle tribe, four wings; outer ones hard, for protection; apple tree borer, May beetle.

2. *Orthoptera.*—Four parchment-like wings,

and many of them long hind legs for leaping. Grasshoppers, locusts, crickets.

3. *Hemiptera.*—Four wings and sucker; plant lice, bugs.

4. *Neuroptera.*—Net-winged insects, four wings; mostly aquatic. Dragon fly, aphis lion, May flies.

5. *Lepidoptera.*—Four wings covered with scales, various colors; butterflies, moths and spinges.

6. *Hymenoptera.*—Vein-winged, four; generally provided with a sting; bees, wasps, ants, ichneumons.

7. *Diptera.*—Two wings; mosquito, house fly, midge.

Cabinets, Preservation, &c.—In studying insects, it will be necessary to preserve specimens for reference and comparison, and I will give a few plain and simple directions for so doing. The first thing required will be a case or receptacle for holding the specimens and preserving them from the weather, and insects that devour them. I will give a description of one I use, which is cheap and easily made. It is made of two-inch pine plank, and measures on the inside 28x15 inches and 2½ inches deep, with a tight bottom or back, made of soft pine, and the whole inside covered with strong white printed paper pasted on. The upper or outer inside edge of the frame is grooved one-half inch deep, to let in the frames of glass doors fastened to the outside by hinges. The main portion of the case is 20x15 inches, having two doors of glass hung in wooden frames, closing at the centre.

The remaining portion, which is separated from the first by a partition, has a door hung in the same manner, and is divided into two parts, the lower one to hold the setting board, and the upper furnished with shelves to hold the necessary implements, vials of specimens, &c. The principal point is to have the case as tight as possible. A piece of camphor should be kept in the case to help keep out the destructive insects. This form is given as an example; of course, each one can make one to suit their taste and means. Such a one will hold what insects will likely to be captured for two or three seasons.

I will name a few of the simplest and necessary implements. They are, common brass pins, of various sizes; a setting board, which can be made of soft pine or basswood, and is for holding the insects until they are suitable for the cabinet; a setting needle, which may be made of a slim darning needle, and is for convenience in arranging the limbs, &c., of the insect; a vial of chloroform which is for killing the specimens. If chloroform cannot be obtained, spirits of turpentine will answer.

All that is required to preserve specimens of perfect insects is to force a pin through the body between the wings. The pin should be proportioned to the size of the insect, should project through far enough to fasten in the board and still leave enough of the top to be easily grasped by the fingers or pincers. The specimen, after pinning, should have its wings, legs, antennæ, &c., arranged in the natural form, fastened and left to dry, and in two or three days it will be suitable to place in the case. Previous to setting a few drops of chloroform should be applied to the head, and another when it is left on the board.

Much care must be exercised in handling butterflies and moths, so as to prevent spoiling their wings. Insects too small to pin, may be fastened to slips of stiff cardboard by gum arabic. Larvæ, as worms, caterpillars, &c., may be preserved in small, wide-mouthed vials, filled with alcohol. Other insects, except lepidopterous specimens and those possessing bright colors, may also be preserved in this manner. For further particulars, see my article in Report of Secretary of Maine Board of Agriculture for 1860.

Thus, I have given the simplest outlines which may serve for a beginning, and then experience will teach the best methods of operation. Although one cannot make a simple collection of perfect insects without necessarily becoming acquainted with their names and history, to a certain extent, yet, we should remember that the collection itself is not wholly the object aimed at, but simply as a means to further knowledge. We must study, observe, compare, and above all, *record* the result of our observations.

To this end I would recommend that whenever a specimen is placed in the cabinet a number be written just above or below it, which shall refer to a corresponding number in a record, wherein shall be written the name of the insect, if known, the time of its capture, what injury, &c., it has caused and everything that is known in regard to it. It is easy to be seen how soon such a practice would place in our hands a large amount of valuable information, doubly valuable from its being principally of our own seeking and finding.—[*Maine Farmer.*

Why do we Pickle Seed Wheat to Prevent Smut.—A correspondent of the Iowa *Homestead* says:

Smut is said to be prevented by soaking the wheat in a solution of salt, or in a solution of nitre, or in a solution of blue vitriol, each of which is undoubtedly good. Why? Because, acting as fertilizers, they give vigor to the growth of the wheat—accelerating its growth, and thus enabling it to resist the early and pernicious influences of too much heat, or too much moisture.

This is not the reason. These substances do not accelerate the growth of the wheat. They do not act as fertilizers. In fact, wheat that is "pickled" with salt or chamber lye, and dried with lime—the most common mode of treating seed wheat to prevent smut—seldom starts so early or grows so vigorously at first as that which is not pickled.

The reason why these substances prevent smut is this: The spores of the smut, or, more properly, "bunt," adhere to the seed wheat, and, if not destroyed, propagate rapidly under favorable circumstances, and are in some way carried into the circulation of the plant, and injure the crop. We pickle the wheat in order to destroy them.—[*Genesee N. Y. Farmer.*

[Written for the Valley Farmer.]

SOIL, AND SUB-SOILING.

Earthy matter has an attraction; so has water. But the attraction of earthy matter is too strong for the water. Hence, it keeps its ingredients (the fertilizers) and the water departs without them. Thus, a soil may be drained, and if never so rich, the water drained off will be pure, i.e., free from the fertilizing ingredients of the soil; Hence, a well may be dug in the centre of a barn-yard with perfect impunity.—All that is necessary is to keep the strength of the yard from running in at the top, and the water will be as pure as if dug in a field. All that well-water needs is, drainage *through* the soil, and not from the top, for soil is an eminent purifier of water. It is on this principle of superior attraction of earthy matter over water, that brooks purify themselves. As they flow along, the water coming in contact with the ground, yields its ingredients. Hence, the fertility of alluvial soils—at least in a measure.

Water has nothing to do with the fertility of the soil. It passes through harmlessly. If charged with vegetable matter, this is taken from it, thus enriching it. It is therefore that liquid manure is found so beneficial; and the time may come when it will be the principal manure, as its effect is instantaneous, decomposition not being necessary. Water, then, is harmless in soils. It has, however, one office to perform: it is the medium through which the strength of the soil is carried into the plant. And this strength is taken up only where it comes in contact with the roots. If the roots ceased growing, the plant would soon die for want of nourishment; but the extension of the root brings it in contact with new soil. It will thus be seen what a small part of the soil is affected by a crop—only the parts that come immediately in contact with the roots—not a twentieth part of the ground. It is therefore that a thoroughly enriched soil needs but little additional manure yearly, and will "wear"—as we see in "river bottoms," where the fertility is great, and extends deep in the ground. I have known soils worked twenty years and more in succession, with good yields on the whole.

Now, what we are to gather from all this is, that the soil retains its fertility independent of water, and, that much soil is left unoccupied—is not reached by the plow or the plant. Hence, in most soils "worn out," a little deeper plowing each year will be beneficial—especially is the sub-soil plow a benefit; for it must be understood that the sub-soil is hard packed—made harder by the pressure of tillage, the trampling of stock—thus excluding air, and, from its depth, heat, the great agents of vegetation. It is here that seeds will lie buried for years, for many years—even for centuries it has been known. A long, warm, wet summer will bring some of these to light. But nothing is so effectual as the plow, especially the sub-soil plow, which lets in the air and the warmth, thus setting in motion the fertility below. We advise a plow with a sub-soil attachment. Such may be obtained; and, as we see now, with little trouble and expense. Five dollars will buy an improved attachment, highly recommended and tested, of Flower & Weaver, Syracuse, N. Y.

The same team will do the work here, and an extra horse added, will sub-soil to a proper depth. The soil will thus be mellowed, and prepared the more to withstand long rains and drouth, as well as to give up its latent fertility. Many soils have been re-claimed in this way to the great surprise of the farmer. There is a hidden treasure in our farms if we but knew it.

F.G.

[Written for the Valley Farmer.]

Farmers' Club of St. Charles.

June 7th, 1862—Regular monthly meeting. In the absence of the President, John J. Johns, Esq., was called to the chair.

Yellow Dock—The question arose as to the best method of killing this weed, which was freely discussed, when it was agreed by the members present to shave it off even with the surface of the ground and cover it with salt, and report the result at the next regular meeting. This method is known to effectually kill the Burdock.

Hungarian Grass—Will it injure horses when fed on it freely? The testimony of members is decidedly against its use, as it tends to stiffen the limbs of horses and altogether renders them unfit for active service. Cows have known to become disordered on a long, free use of it.—Many farmers have ceased to raise this grass on account of its deleterious effects upon stock, and also as it very much impoverishes the soil upon which it is grown. Cut before fully ripe, horses will eat more of it than when allowed to fully ripen; but this does not entirely deprive the grass of its deleterious properties. A very few farmers still raise this grass, and do not acknowledge its bad properties—but the testimony is decidedly against it.

As an historical fact, we note that the Army Worm has made its appearance in many wheat

fields, and thickly on some meadows. Last year, the grain fields and meadows were black with them. May wheat, in our county, is generally full of red rust. B. A. ALDERSON, Sec.

[Written for the Valley Farmer.]

CORN GROWING.

I have an experience of over ten years in growing corn. My experience has led me to the following conclusions: That corn should be planted three and a half feet in the rows, and the same distance in the hills, which enables the cultivator to do the most of the work, the hoe but little. There should be no hilling, the grass and weeds simply kept out, and the ground stirred. The soil should be loose and mellow to as great a depth as possible, either by plowing in the spring if the ground is hard packed by the snow or rain, or grass prevails; or, if these are not present, sub-soiling (in addition to the fall plowing). The blacker the soil and the richer, the better. A half dozen or more kernels to each hill at planting, thinned out to about three stalks, is my practice. After planting, the ground (or at least the hills) should be sown over with a mixture of ashes and plaster, say two or three bushels of ashes to one of plaster. Soot is better than ashes, and if scattered over the entire ground after each dressing, has a wonderful effect. A greater effect than all is a little hog manure in the hill. The strength of this, however, lasts only till the corn is somewhat advanced, unless there is considerable added, and mixed with the soil to some depth. But a little in each hill will give a vigorous start to corn. Hog manure on corn is "worth its weight in gold." The soot will darken the soil, and thus draw the heat.

Much is depending on your seed-corn. If you select the early large ears, you will get the same. But if this is continued with the same corn, it will dwindle it: your crop will grow less every year. It is best to change your seed-corn every year. Get it from your neighbors—or, better, from afar—or, better still, a new variety. It is seldom that a new variety misses—such has been my experience. New varieties improve on a new soil; whereas the same corn continued for years on the same soil, I have known to run out. A very deep, rich soil will vary this sometimes. Such a soil will produce almost anything under any circumstances.—Still, change will be beneficial here. F.G.

The worst wheel of the cart makes the most noise.

National Department of Agriculture.

The following is the act passed by Congress and approved by the President, to establish a distinct Department of Agriculture in the Government:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there is hereby established at the seat of Government of the United States a Department of Agriculture, the general designs and duties of which shall be to acquire and diffuse among the people of the United States useful information on subjects connected with agriculture in the most general and comprehensive sense of that word, and to procure, propagate and distribute among the people new and valuable seeds and plants.

SEC. 2. And be it further enacted, That there shall be appointed by the President, by and with the consent and advice of the Senate, a "Commissioner of Agriculture," who shall be the chief executive officer of the Department of Agriculture, who shall hold his office by a tenure similar to that of other civil officers appointed by the President, and who shall receive for his compensation a salary of three thousand dollars per annum.

SEC. 3. And be it further enacted, That it shall be the duty of the Commissioner of Agriculture to acquire and preserve in his Department all information concerning agriculture, which he can obtain by means of books and correspondence, and by practical and scientific experiments, accurate records of which experiments shall be kept in his office; by the collection of statistics, and by any other appropriate means within his power; to collect, as he may be able, new and valuable seeds and plants; to test by cultivation the value of such of them as may require such tests; to propagate such as may be worthy of propagation, and to distribute them among agriculturists. He shall annually make a general report to the President and to Congress, in which he may recommend the publication of papers forming parts of or accompanying his reports, which report shall also contain an account of all moneys received and expended by him. He shall also make special reports on particular subjects whenever required to do so by the President or either House of Congress, or when he shall think the subject in his charge requires it. He shall receive and have charge of all the property of the agricultural division of the Patent Office in the Department of the Interior, including the fixtures and property of the propagating garden. He shall direct and superintend the expenditure of all money appropriated by Congress to the Department, and render accounts thereof, and also of all money heretofore appropriated for agriculture, and remaining unexpended. And said Commissioner may send and receive through the mails, free of charge, all communications and other matter pertaining to the business of his Department, not exceeding in weight thirty-two ounces.

SEC. 4. And be it further enacted, That the Commissioner of Agriculture shall appoint a

chief clerk, with a salary of two thousand dollars, who in all cases during the necessary absence of the Commissioner, or when the said principal office shall become vacant, shall perform the duties of the Commissioner; and he shall appoint such other employees as Congress may from time to time provide, salaries corresponding to the salaries of similar officers in other departments of the Government; and he shall, as Congress may from time to time provide, employ other persons for such time as their services may be needed, including chemists, botanists, entomologists, and other persons skilled in the natural sciences pertaining to agriculture. And the said Commissioner, and every other person to be appointed in the said Department, shall, before he enters upon the duties of his office or appointment, make oath or affirmation truly and faithfully to execute the trust committed to him. And the said Commissioner and the chief clerk shall also, before entering upon their duties, severally give bonds to the Treasurer of the United States, the former in the sum of ten thousand, and the latter in the sum of five thousand dollars, with conditions to render a true and faithful account to him or his successor in office quarter yearly accounts of all moneys which shall be by them received by virtue of said office, with sureties to be approved as sufficient by the Solicitor of the Treasury, which bonds shall be filed in the office of the First Comptroller of the Treasury, to be by him put in suit upon any breach of the conditions thereof. Approved, May 15, 1862.

AGRICULTURE CIVILIZING.

There are many agencies at work civilizing, educating and moralizing mankind. Agriculture is, among these, scarcely inferior to any. It is a means of culture. It is a school of development. It is an art enriching not only the landscape, but the mind and heart of the agriculturist. It is a science bringing not only a large class of plants, animals and substances under the control of enlightened philosophy, but the people themselves who live by agricultural pursuits.

Agriculture affords the grand symbols of culture. From it we learn the fact and art and use of culture. From the culture of plants and animals we draw our ideas of the culture of men. In producing flowers we learn the philosophy of producing virtues; how genial influences, the warmth of sunny associations, and the dewy freshness of mutual sympathy, act upon us to make fruitful the soil of our hearts. In ripening fruits we learn how to ripen mind and enrich it with the juices of wisdom and the health of a fair and vigorous growth. In beautifying the fields with the rich harvests of grass and grain, we get hints of that higher beauty we may spread over the fields of life in the harvests of fair deeds, generous friendships and manly and womanly excellencies, so noble and charming among men. Culture is the most important and widely useful fact in the range of human knowledge. The best habits that adorn our lives, the noblest qualities that enrich our characters, the highest charms of individuals and of society are the fruits of culture. Men pass from savage to civilized life by the arts of culture. Society grows and improves much as do the harvests of the field. Culture in the fields of the husbandman; in the studios of art; in the colleges of scholarship; in the homes of affection; in the sanctuaries of conscience and religion, is ever the same thing under the varied applications of its work. The arts of culture is the great study of all fair minded and useful men. The agriculturist applies them to the objects of his pursuit and reaps a result in his own mind and life.

Another lesson taught and enforced by agriculture is, the lesson of *labor*. In the field of agriculture the indolent must starve. Grain grows only to the sower and fruits to the industrious cultivator. The sluggard who plows not, has no harvests to reap in autumn and no bread to eat in winter. So labor is everywhere else the lever which moves the world. The merchant, the mechanic, the scholar, the artist, the minister must work or fail. In mental, in moral, in spiritual pursuits, the same law holds good that success waits on labor.

Agriculture teaches the great lesson of *dependence*; that we are mutually dependent upon each other and all dependent upon the earth, the sun, the clouds, the seasons, and the great Maker and Supporter of them all; that different portions of society are dependent upon each other, as the vegetable and animal kingdoms are dependent upon each other, and both upon the soil from which they draw their sustenance; that dependence and reciprocity are the great laws of all life, and should be kept constantly in view. Moreover, agriculture has ever been the first missionary among savage tribes, as well as the last material teacher in the circles of refinement. It is to human civilization and progress, what the alphabet is to literature, the beginning, the middle and the end—the only indispensable thing. It is the mother of us all—the great nourishing bosom of society. It affords a great variety and scope of the most expressive figures of literature, giving often vitality and power to the finest productions of human language. It enters largely into the teachings of our religion, and is emphatically the helper

and handmaid of all that is best and most refined among men.

All courage and hope therefore should inspire the agriculturist. His vocation is useful and necessary, and may become the ladder on which he shall go up to the highest walks of intellectual and spiritual life.

A GRAIN BINDER.

An apparatus attached to a reaping machine for binding grain, exhibited at the late State Show in Iowa, is thus described in the *Rural New Yorker:*

There was one machine which attracted considerable attention, and from all that we could gather of farmers present who had used it, merited all that it received. We refer to a simple, yet nondescript machine, called Burson's Grain Binder. This binder is attached to a reaper, and enables one man to bind the grain as fast as it is delivered to him by the raker, without leaving the platform at all. It will be at once apparent that this is not only a great saving of grain but a great saving of labor. The material of which the band is made is of small annealed wire, which costs but a trifle—fifteen or twenty cents worth being sufficient to bind an acre of grain. The sheaves are bound of any size from a diameter of a quarter of an inch to one of fourteen inches. It is not difficult to operate this machine, and an important advantage which is secured by its use is best expressed by the language of a farmer who had used one, and said to the writer: "We have got these hired men with their high wages, in harvest time, in a tight place, sir. They can't dictate terms to us any longer, and compel us to surrender at discretion. Neither are we compelled to make slaves of our families in order to feed a half score of hungry men. We can do our harvesting with the help we ordinarily use on the farm, and without waste, too." That is about as concise a statement of its advantages as a man could make. It has now been used two seasons, and all experiments have been made with a view to its perfection, and all suggested improvements are at once adopted, if well established. We expect it, or some binder, will become as essential to the Western farmer as the reaper now is.

GREEN SHEEP-PASTURES.—Some one has asked why sheep pasture, though shorter, is greener than cattle-pasture. One reason certainly is this: The heavy hoofs of cattle pack the soil in moist weather, and at all times press hardly the tender grass.

From the Journal of the Ills. State Agr'l. Society.

Essay on the Cultivation of Field Crops and Preparation of Soils.

BY J. B. TURNER, JACKSONVILLE, ILLINOIS.

(Continued from June No.)

I. The atmosphere above is in a constant undulation or oscillation, or alternate rise and fall, produced by the heated air at the surface, constantly rising, while the cooler air above descends to take its place below; thus, as if by one everlasting series of kisses, it is constantly imparting to every square foot of the earth's surface, for its absorption, all the gaseous matter that it may contain, and which the soil may need or be prepared to absorb. Its lateral or spiral motions over and around the earth, in the form of winds, conspire also to the same grand result.

These winds, in their regular circuits, as all know, sweep spirally and uniformly round the whole globe, coursing incessantly and alternately over every zone, frozen or burning, every continent, every mountain highth, every ocean and every sea, in their great regular and periodical circuits, aside from the varied dancings with which they thread their mystic mazes around every storm cloud, and every accidental or local disturbance at the surface of the earth. These great horizontal periodical sweeps or circuits of the whole atmosphere, and their attendant local dancings, united with its periodical tremor or oscillation up and down as it goes, referred to above, exactly fit the whole atmosphere to perform its special functions to agriculture, as the great *universal scavenger, irrigator and fructifyer* of the globe; to gather up from earth and sea all needful waste organized matter, where it is not needed; thus throwing it anew into the hopper of the great mill that is perpetually grinding out all forms of organized life.

Thus by this simple and beautiful arrangement, when there is an excess of moisture, or any form of gas in any portion of the earth, the air licks it up and bears it on to some other place; but if the excess is in the air, it as readily imparts it to the earth in the form of dew by night, and absorbed vapors and gases by day. These materials, which, as we have said, in themselves constitute more than nine-tenths of all vegetable growths, are gathered up by the air, the whole world around, in all possible sewers and manure pits, as well as from all continents, islands, oceans and seas, and they are not likely to be exhausted.

I cannot help pausing here to say, that by a most wonderful arrangement as regards the specific gravity of water, the denser waters of the ocean are piled into ridges about the poles, which

by a perpetual avalanche, or water slide of the sea, throws the warm water to the north, thus producing there an open sea, even at the poles, while it presses the colder waters with their monstrous icebergs and ice islands to the south; thus not only equalizing all climates, in respect to heat and cold, as far as possible; but setting the whole ocean itself, from its lowest depths, into a perpetual whirl of currents and counter-currents similar to that of the air above; throwing it from zone to zone, and dashing it from continent to continent; while it is swept by the winds above, which lick up from its surface whatever needed elements of growth are thus whirled up from its depths below, and bear them off again to the continents; thus by one most magnificent movement, more simple even than sublime, the ocean is kept pure for its inmates, while the continents are again enriched, not only by the waters, but by the gathered wastes which the rivers and sewers pour into the sea. Thus God churns the ocean by night and by day, that the skimming winds may gather up its needful wealth for the plowman on the land. These scavenger winds, therefore, not only sweep every zone, and every nook and corner of the earth, but the very bottom of the sea, in quest of what is useless or injurious to animal life there, to suborn it again to the service of man and beast upon the land; for the peculiar oscillating and depositing motions of the atmosphere, of which we have spoken, cease upon the sea, and deposits upon the land wherever the land is prepared to receive it.

The corresponding action on the part of the earth, known in its main features as *capillary attraction* everywhere responds to this action of the air above; and whenever the surface soil is in a condition to facilitate the action of the one, the other is incited to action equally vigorous and prompt, and thus, this capillary attraction brings from below the remaining one-tenth of the vegetable food needed, just in proportion as nine-tenths are supplied from the air above, all other things being equal.

There is also, doubtless, what may be called a lateral capillary attraction in the soil, by which the food of all sorts is conveyed from all sides directly to the mouths of the little rootlets of the plants.

[To be continued.]

HEAVING OF WINTER GRAIN—We have the authority of one practical farmer that surface manuring will retard if not entirely prevent winter wheat from being killed by the frost. He says the manure, which must be harrowed in, will give a horizontal tendency to the roots, enlarge and weave them together, so that the frost will heave roots, soil (upper soil), and all, and then set them down again when the ground settles, with little or no injury to the wheat. Of course the manure must be applied when the grain is sown in the fall. F. G.

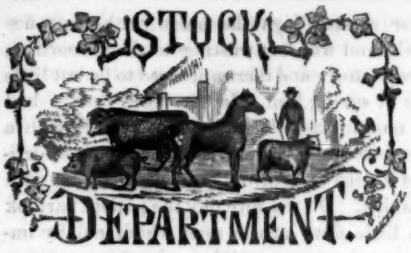
The Mechanics of Farming.

Every farmer needs a workshop, where he can appropriate to some useful purpose his leisure days in winter, and stormy days at any season of the year; and every thoughtful and energetic farmer will have a shop, and will avail himself of the advantages and conveniences which a shop and a few tools afford. There are scores of farmers (and be it said to their shame) who squander away time enough in one season in loafing about places of public resort, to make all the harrows, gates, etc. that are needed on a small farm, and to do all repairing of implements, if they only had a bench and a few tools. Furthermore, it is a good *discipline* for any farmer to exercise his skill in the use of tools, and if a skilful and ingenious farmer will only become accustomed to repair his implements, if he prepares his timber for such purposes beforehand, he will have the satisfaction of knowing that, all things considered, his repairing is done better than he is accustomed to have it done by regular mechanics. The idea that farmers should have a set of tools, may appear somewhat ridiculous to many people, and mechanics will sometimes deride such a thought. But it is not to be expected that a farmer, unskilled in the mechanic arts, will be able to handle tools with all the facility and exactness of an experienced mechanic. Still, with a little practice, and with very little instruction, any one whose apprehensions are not too blunt, may do his own repairing of the common implements of the farm, and make many new tools in a neat and workmanlike manner. It is impossible to do a piece of work well without tools, and if the tyro has tools, and they are in good order, he will often do a piece of work infinitely better than he had ever thought it were possible for him to do it.

What Each Farmer Should Have.

A small spot of ground for corn fodder. Almost every year there is more or less drouth in July or August, when pasture suffers. How grateful then are the juicy corn stalks, fresh and tender and nutritious. It is remarkable how much can be raised from a small spot of ground. Where one or two cows are kept, a corner of the garden is sufficient. Sow in drills two to three feet apart. Keep grass out the first few weeks; the corn will keep it out after that. Sow in June, or even the first of July. This will meet the wants of the latter part of August and first half of September, when pasture is usually shortest. It is a little trouble to cut it each day, but the gratification it affords the farmer to see how eagerly his stock—his suffering milch cows—devour it, should be compensation, to say nothing of the benefit. It certainly is but little trouble to prepare a small spot of ground. It should be manured, if not rich.

TIGHT NUTS ON SCREWS.—Warm them and they will loosen.



SHEEP.

Sheep love the air; consequently penning them close works mischief. This is the experience of the greatest sheep raisers. The weather will not hurt them, or but little. It is remarkable how much even a lamb will endure. We have known them dropped in the snow and do well. All that is needed, is healthy lambs; and it is healthy sheep that make healthy lambs—a sheep well-fed and well taken care of—fed just what it wants to eat, and no more; not crowded, not over-penned. Sheep huddled together is always injurious. It is a good rule that a man should always control his business. If he has too much on hand, this he cannot do. If a thousand sheep are too many on a farm, some must be disposed of. If a hundred are too much for your small lot, keep less, just as many as you can *well* attend to and well keep. If there is not feed enough, that is bad, but not always the worst. As we have before said, sheep do not want to be crowded: they want freedom, air. Then with feed, just enough; salt always by them; shade in the summer (that is necessary)—what they need after that is, to be left alone. In winter they want care, attention. Let them know they have a good master, and that encourages them. The best sheep-raisers say Timothy hay is the best for sheep. We know they are very fond of the heads both of Timothy and clover. We know that grass early cut, even before it is in blossom, is better relished by them than more mature hay. This alone may keep a sheep. That depends on the condition of the sheep when winter sets in. But, in all cases, whether in good or bad condition, a little corn should be added, daily. It is remarkable how much a little corn will do when fed to a healthy sheep each day in addition to just what good hay they want to eat. A very little (always fed daily) will keep a good sheep in good condition through the winter, and fit it for good stout lambs in the spring, which will be all, or nearly all, *sheep* in the fall—the delight of the butcher and the stock purchaser. Then the wool will be so much brighter and thicker, the fleece improving each year with such treatment. With just enough sheep (and the owner will know how many he can feed well and attend to), more money can be made than from mere farming, however rich the soil—for a rich soil, it must be remembered, produces the more grass as well as grain. Then, the soil is so much improved by sheep-culture, and that without the labor of applying manure.

April is probably the best month to drop your lambs. Let each one suit his convenience whether it shall be the first, the middle, or the latter part of the month. But do not try experiments: these have been tried time out of mind, by all, with this one result—that April is the best time in our latitude.

As to the grade of sheep, half-blooded Merinos have a good reputation; are much raised, and shear a fine, heavy fleece; are stouter, and will endure our winters better than pure bloods; are profitable and safe generally. Let beginners in sheep-raising select such stock, and, what is of the next greatest importance, select at all hazards and expense, good bucks. These will improve your flock, whereas a poor buck, of an inferior grade, or sickly caste, will reduce the quality of your sheep.

When you purchase, be careful and always select only healthy sheep if possible; else purchase none at all.

How to Cure Kicking Horses and Runaways.

The Boston *Herald* says: "If you have a horse that has a habit, when in harness, of bringing his heels in contact with the dasher and damaging his vehicle by kicking, proceed as follows: Place around his neck a band like that used for the riding martingale. Then take two light straps, buckle them to the bit on either side, pass them through the neck band, and then inside the girth, and strap them securely to each fetlock of the hind feet, taking care to have them of the proper length. When a horse is rigged in this manner, if he attempts to 'kick up behind,' each effort will jerk his head down in such a way as to astonish him, and perhaps throw him over his head. He will make but a few attempts to kick when he will find his head thus tied to his heels, and two or three lessons will cure him altogether. The method of reforming a runaway is equally simple and effectual. First of all, fasten some thick pads upon your horse's knees, then buckle a strap about the size of a rein upon each fetlock for-

ward, and pass the straps through the hame rings on some part of the harness near the shoulder on each side, and lead the straps back to the driver's hand as he sits in the buggy. He has thus four reins in hand. Start the animal without fear; don't worry him with a strong pull upon the bit, but talk to him friendly. When he attempts to run he must of course bend his forward legs. Now pull sharply one of the reins, and the effect will be to raise one of his forward feet to his shoulder. He is a three-legged horse now, and when he has gone on in that way a little distance drop the constrained foot and jerk up the other. He can't run faster on three legs than you can ride, and when you have tired him on both sides pretty thoroughly, or if he refuses to take to his trot kindly, and to obey your voice and a moderate pull on the bit, you can raise both his fore feet, drop him upon his knees, and let him make a few bounds in that position."

[Written for the Valley Farmer.]

VETERINARY DEPARTMENT.

By Geo. H. Dadd, V.S., St. Louis, Mo.

BLEEDING A HORSE IN THE MOUTH: HE NEARLY DIES IN CONSEQUENCE.

May 1st, 1862.—This day I had occasion to visit the stable occupied by Mr. Honig, on Sixth St., for the purpose of seeing a couple of patients there located; after having administered what was necessary, I was about leaving the premises when Mr. H. called my attention to a horse (the property of a dealer) that had been bleeding from the mouth for several hours. I learned that the owner of the animal had practiced phlebotomy with a common pocket knife; simply, because "*the animal had a chill.*"

On examination I found the animal almost pulseless; the ears, limbs and external surface of the body perfectly cold; the visible surfaces of the eyes, nose and mouth, were blanched, and the animal was so weak and tottering that he appeared in danger of falling from sheer exhaustion. We tried but could not move nor coax him from the spot on which he stood, almost fetlock deep in coagulated blood. The blood was still flowing from the mouth in a continuous jerking stream, and at the same time the animal was occasionally swallowing large quantities of the crimson fluid. On opening the mouth I discovered that the palatine artery was completely severed, and the incision in the hard palate was quite large. I immediately armed a suture needle with saddler's silk and sutured the palate so closely that the hemorrhage immediately ceased. Next day I cut the sutures and allowed the coagulum to escape.

For several days the horse neither ate nor drank, and was fast wasting to the proportions of a skeleton; and there appeared to be but little hope of saving him. In the mean time I had his mouth washed several times daily with a strong solution of salt; applied counter-irritants to legs and throat, and clothed him with a blanket. On the fifth day the patient partook of a little flour gruel; after which a daily improvement was perceptible, under the exhibition of tonics and stimulants. The animal so far recovered that in the course of a fortnight he was led to pasture.

It appeared, that, in consequence of the large amount of blood which the animal must necessarily have swallowed, paralysis of the organs of deglutition and digestion occurred, which accounted for the inability to take food, and loss of appetite.

I would advise the readers of this periodical never to bleed a horse in the mouth. I know the practice has received the seal of antiquity, but this, like many other barbarisms, yet in vogue, is no proof of its utility. Whenever it becomes necessary to bleed an animal, the jugular vein in the neck is the most convenient and proper vessel from which to abstract blood.

The horse is not a carnivorous animal; his digestive organs are not well adapted to the digestion of blood; and blood once introduced into the stomach of the herbivorous is not *digested*, but actually rots and decomposes: this is one of the principal reasons why horses should not be bled in the mouth.

THE STRUCTURE OF THE HORSE'S HOOFS,

Is an epidermic appendage, similar to nails, claws and scales. They are produced in the first instance by the growth of cells; the contents of which gradually evaporate, so that the walls are left to approximate each other. In the upper part of the hoof, near its matrix, these cells may be seen. They are somewhat flattened against each other, but still retain a rounded form. The hoof as well as nails are not traversed by nutritious nor absorbent vessels, and the flattened cells when fully developed undergo but little change. The composition of hoofs is as follows:

Carbon,	- -	52 parts.
Hydrogen,	- -	7
Nitrogen,	- -	17
Oxygen, Sulphur,	- -	24
	Total,	100

DESCRIPTION OF THE SPLEEN OF A HORSE.

The spleen, or melt, is a pyramid in form, lo-

cated in the left hypochrondrium, or between the stomach and false ribs.

Color—Blue mottled, or of dark marble hue—much darker interiorly.

Weight in health, three pounds.

"It is composed of a congeries of blood vessels united together by cellular tissue; its artery is derived from the cœliac axis, and is termed splenic artery, and the veins of the spleen terminate in the vena portæ—the great vein of the liver. Very little is known of the function of this gland, except that through its extraordinary distensibility it serves as a diverticulum, to relieve the liver when it is congested, or when an obstruction to the flow of blood through the liver, heart, or digestive viscera exists.

Carpenter says, that the spleen has been repeatedly removed without obviously injurious consequences, whenever it appears either that its function is not of vital importance, or (which is more likely) that it is discharged by some other organ in its stead. In some instances in which animals have been allowed to survive after the removal of the spleen, the lymphatic glands of the neighborhood have been found greatly enlarged and clustered together, so as nearly to equal the original spleen in volume; and hence it appears, that the function of the spleen corresponds to that of the lymphatic glands.

The spleen is subject to various diseases, known as inflammation, hypertropy, ossification, hydatids, etc; but the symptoms are of such an obscure character that it would not be worth while in a work like this to discuss them."

APHTHA.

The word Aphtha, we find, is derived from the Greek. No indication of the seat of the disease is given by the name. As nearly all the nomenclature of disease is taken from the sister profession, I in this instance adopt the word *Aphtha*, as the disease about being recorded is analogous to that malady in the human subject. In Professor Gamgee's work on *Our Domestic Animals*, reference is made to Sporadic Aphtha as a mild affection occasionally witnessed in all animals, and which was mentioned by the earliest writers on veterinary medicine, such as Buellio, Vegetius, and others. The symptoms and treatment are therein given.

In Field's *Veterinary Records* we find a case from Mr. John Field's note-book, in which he states:

"On the 30th Nov. 1816, I was called to see a horse that exhibited the following symptoms, viz: Loss of appetite, depression, eruptions on mucous membrane of lips and sides of tongue, slight salivation, tumefaction of sub-maxillary glands, deglutition rather difficult, pulse unaltered. An acid, astringent gargle was prescribed, as well as some opening medicine.

Dec. 2nd.—The purging from the physic had ceased—there were some swellings on the sides of the tongue—the eruptions on the lips had become pale and flattened; those of the tongue were vascular, and a few superficial ulcerations or rather broken vesicles were observed. The throat was so sore that the horse could not bear external pressure. The following mixture was ordered to be given daily:

Sulphate of Iron, -	- 2 drachms.
Tincture of Ginger, -	- 1 ounce.
Water, - - -	- 12 ounces.

Mix.

The throat was stimulated, and a bandage applied.

Dec. 4th.—Much improvement had taken place—the soreness of the throat had subsided—the greater part of the eruptions had disappeared—and there was no salivation.

The above plan of treatment being continued, the horse did perfectly well."

Strange to say, on looking over many veterinary works, I find the disease not touched upon, at least as regards the horse. Is it that the attacks are too insignificant to court record?

Not many weeks ago, when taking my usual morning's perambulation through some stables, I observed a young well-bred chesnut gelding, slavering somewhat from the angles of his mouth. He had been out of condition for sometime previously, in fact I might in justice say he appeared unhealthy in every way. Skin tight upon particularly prominent ribs; coat inclined to stare; fed slowly; partook of about a quart of water in the twenty-four hours; purgation and constipation alternating: these symptoms originating out of a sharp attack of influenza, which had evidently caused a functional derangement of the digestive organs; and I was fully impressed with the conviction, that should either infection or contagion be within reach, the distorted system would have responded willingly to the specific poison.

On looking into the mouth the morning in question, I was somewhat surprised to find the buccal membrane literally covered with ulcers, irregular in shape, with red prominent edges, and their surface of a dirty white; those upon the inside of the lips were not so fully developed, and appeared vesicular in their origin.

The tongue did not escape these solutions of continuity. The sub-maxillary glands showed tumefaction, soft to the feel, and not what is commonly called "adhering to the bone." The coronets did not participate in any way in the derangement—differing in this respect from the cattle disease. The eyes were clear; nostrils dry; there was a great disposition to rub the tail; pulse about 50.

On seeking for contagion, I discovered a young chesnut mare, which stood on the right of the horse, had been similarly affected, but apparently in a much milder form, the ulcers were not nearly so numerous, and were almost healed. The left hand stall was occupied by a bay mare: she escaped; and I could not detect any traces of the disease in the stable beyond those enumerated; the occupants were all presenting more or less remnants of influenza. "Prevention is better than cure." Acting upon this suggestion of our progenitors, the horse was removed to a box, and the third day after admission, vesicles appeared upon the outside of the angles of the mouth, in the course of two days more they burst, leaving pitted ulcers with

a thin matter or sanies, somewhat tinged with blood, issuing. The ulcers in the mouth healed, alum wash being used locally, and a mild laxative given internally. On looking into the mouth of the mare, through whom the disease had evidently been transmitted, I found but little traces of ulceration left, and this result without any treatment whatever.

The irritable and unhealthy appearance of the ulcers at the angles of the mouth—five on one side, six on the other—I attribute to the constant action of the orbicularis oris, and the irritation occasioned by the parts coming in contact with the sides of the manger when feeding. I felt satisfied in my own mind that I was right in the views which I had taken of the case, and continued treating the animal in accordance with those views, and I have every reason to appreciate the effects of the alterative administered for the complete restoration of the horse.

A fortnight after my friend saw the case, the ulcers had healed, a change in the horse's general appearance soon afterwards took place, flesh accumulated, he became particularly saucy, and I had to send him to work in consequence, just six weeks from the time the disease was first noticed.—[*Veterinary Review.*

KINDNESS TO ANIMALS.

Visiting a large dairy and stock ranch in Marin county lately, we were exceedingly gratified to listen to the practical remarks of the proprietor upon the utility and value of kindness to cattle; and having often urged this matter in our columns, we take this opportunity to call the attention of all dairymen and stock owners, especially those who are *dairymen*, to the remarks of this humane man:

"In the first place," said he, "I never allow any man in my employ to whip, beat, kick, or abuse any animal on my farm: as it is inhuman to beat or maltreat a dumb beast, I will not allow it on *principle.*" And again, I wish everybody would act on the same principle: and those who have no humanity, if they would look at the *cost of beating cows*, they would desist. "For example," said he, "let a coarse, rough man go among thirty or forty cows at milking-time, and begin to speak loud and harsh to the cow he is to milk; or, as such a man will often do, thump or kick the cow, or strike her with the stool, as unfeeling men often do, and *that cow and every cow within his influence, will hold up her milk;* some more, some less. This is an established fact; and every such man among a band of cows will thus take away from the product of the dairy from three to five gallons of milk daily in a band of forty cows.

"As it is customary for one man to milk twelve or fifteen cows as his portion, these cows will be scattered over the yard or in different stalls, and as he will have to pass among nearly the whole band, they will all feel and fear his influence, and I am confident a man of this character will always lose his employer *more* than his wages. With this view of the case, I never will keep a man on my premises who is of this character."

We now plead with all dairymen, and ask them to review these facts, give us their opinions, and copy the example of this humane and wise man, whose words are here quoted, and they will find themselves the gainers largely by a decisive action. If our dairymen and stock-raisers would discharge all men who are harsh and cruel to their stock, they would have better stock, more butter, and be in a better condition every way.—[*California Farmer.*

[Written for the Valley Farmer.]

"F. G." on "Sheep in the West."

I have several times written something for the *Valley Farmer* in relation to sheep husbandry and its importance in the West, and was not sorry to find in the June number that "F. G." had turned a few thoughts in the same direction. As nearly every writer is pleased to know that what he writes attracts some attention and is considered worthy of notice, I presume that "F. G." will not be displeased if I review or even criticize in a friendly manner his article on the above subject.

He says, "It is thought sheep will not thrive in the West." I believe that to be an Eastern impression, not a Western one. I know that such an opinion has been not uncommon in the East, while I have found very few if any Western men who doubt that sheep will thrive here, although too few are fully aware of the benefits which might be derived from sheep husbandry in the West. That sheep will thrive and do well on all our dryer prairies, there is no doubt. That the prairies are equally as well fitted for sheep as the hills, there is much reason to doubt. From the opinion or the assertion that "the same air is in the valley as on the hill," I dissent. It is a well known fact that the air on the hills is dryer, warmer, and generally more salubrious. The air of the valleys is colder, more frosty, contains more moisture and more malaria. Peach trees will produce fruit on the hills, while in the valleys the crop is cut off by frost. Sheep love the hills and for more than one reason. They seek the highest land to pass the night, and thus generally the poorest land in their pasture receives most of their manure.

They will almost invariably be found at night on the summit of the highest hill in their pasture, however laborious it may be to get there, and doubtless for reason of the difference in the air referred to. Sheep love the hills also because of the better quality of pasturage which they afford. "F. G." says, in another article in the same number, "grasses on poor soil or knolls, are most sought by the herd: they are sweeter and more nourishing.

Hill lands are much better adapted to profitable sheep husbandry by reason of the greatly less prices at which they are generally held. Most of the hills, especially the rocky ones, are comparatively illy adapted to grain, while they will yield the best of sheep pasturage. If sheep are profitable on land worth $30 an acre, they can certainly be kept with much greater profit on land costing $10, and which will produce a better quality of pasturage, though possibly not quite so much in quantity, and afford purer air. We have an abundance of hills in the West as well as prairies, on either of which sheep will thrive well, as has been proved. Heretofore, prairie lands have been preferred and the hills shunned. Even now, there are thousands of acres of hill lands, deemed by the majority of farmers next to worthless, which if put into blue-grass and white clover pasture, would be preferable, in my judgment, to the prairies for sheep raising. Farmers who occupy rich bottom farms, producing the heaviest yields of corn, are in the habit of buying, annually, cattle and sheep to fatten for market, from farmers on the prairies and hills. It it is said that in these cases, those who raise the stock make the most money, and find their business most profitable. Neglect of sheep raising is undoubtedly a Western error, and as we get rid of this error the tendency will be to bring into profitable use and occupation our neglected hills.

"F. G." says, "In Illinois, in Christian and Sangamon counties, several farmers own from thirty to forty thousand sheep." Does he mean that several farmers own such numbers each? Evidently, because he says he has in his "mind's eye several fine establishments of this kind." Either his mind's eye is pretty large, or they have some pretty large sheep owners in Illinois. Will not "F. G." furnish the address of a few of those establishments? They would probably be good places at which to buy when Missourians wish to increase their flocks largely.

Allenton, Mo. L. D. Morse.

A plowman on his legs is higher than a gentleman on his knees.

Preservation of Harness.

Take Neat's Foot Oil, and Ivory or Patent Black—the latter well pulverized, or to be made so before using. Mix thoroughly, adding the black until the oil is well colored, or quite black. In cool weather the oil should be warmed somewhat before mixing. With a sponge apply a light coat of the mixture—only what the leather will readily absorb, unless the harness is dry—which will be in from two hours, to a half or a whole day, depending upon the weather and previous condition of the leather—wash thoroughly with soap suds. In making the suds, *use good castile soap and cold rain water*—(warm water should never be used on harness leather). Apply the sponge. Rub off with buckskin. This will give the harness a nice, glossy surface, and the leather will retain a good color, and continue pliable for months. If it becomes soiled with mud or sweat, an application of soap and water, as above directed (without oiling), will be sufficient to give it a bright appearance.

Two applications of this oil and black mixture a year (or once every six months), will be sufficient to keep harness, as ordinarily used, in good order. It may be necessary for livery men, and others who use harness constantly, to apply the oil oftener—but in most cases two oilings a year, and washing with suds when soiled, will keep a harness in good trim for sight and service. This process will pay a large dividend in extra service and durability, to say nothing of improved appearance. Alderman Baker assures us that the same, or a similar application is just the thing for carriage tops which are made of *top leather*. The only difference in treatment, is, that less oil should be used, or rather a lighter coating applied—and it should be washed *off before drying in*, top leather being thin, and much more penetrable than harness. Of course, the mixture would not answer for enamelled leather, of which some carriage tops are constructed.

Farmers Should Raise Mutton Sheep.

A writer in the St. Albans *Messenger*, signing himself E. R. T., of East Franklin, strongly recommends farmers to give more attention to raising long-wooled or mutton sheep. With them, he says, much less labor is required to realize the same amount of money, than with either cows, horses, or young cattle. The long-wooled or mutton variety which are, perhaps, the best adapted of any kind to our soil and climate, are very hardy and easily kept. They are not liable to disease, or at least have not been so in this vicinity, so there is little risk to be feared in this respect. They are evidently the kind for the times, when both mutton and the coarser variety of wool are in active demand. There is less trouble in raising the lambs, for they are as hardy as calves, and it is nothing uncommon to see them outnumber the flock—indeed, one man in this place, the last season, raised eighteen from nine ewes. Lambs five or six months old are fit for market, which is not the case with any other kind of stock, hence the expense of wintering is avoided. The past few

years, when beef has been dull and hard to be disposed of, mutton has been in good demand at profitable prices. Owing to the war, this demand is steadily increasing, and in consequence, there is a large call for store sheep at a high figure, in anticipation of future requirements. Mutton will undoubtedly continue in fair demand, as there seems to be a growing inclination for this meat, in preference to beef or pork—while so long as cotton goods maintain their present high prices, with still an upward tendency, there will be a favorable inducement, not to say necessity, for employing wool, so far as possible, in all fabrics for use or wear.

[Written for the Valley Farmer.]

STOCK IN THE WEST.

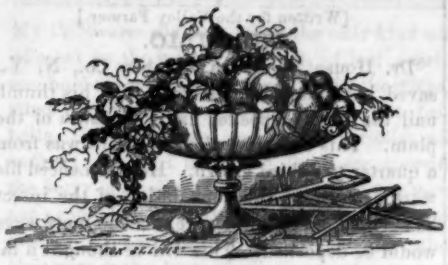
We have spoken of sheep, and the unpopularity of raising them that is urged. But the same remark holds good with regard to all stock. Millions of dollars' worth of swine alone are annually lost in the West through carelessness and disease. So in a greater or less degree with cattle. What is needed is *care*. The crowd of labor in the West takes too much of our attention. There should be less labor, less land, and more thought, more attention to whatever concerns the farm, particularly the stock. A little more care taken in this way, will save us much, will prevent disease, will improve breed. It is carelessness that hurts our sheep, our swine—that gives us bad butter, and not the grass. Good butter *is* made in the West, and on Western grass. It is this sheer heedlessness that extends to every branch, farming included; but as the soil is rich, it is less felt in this particular branch. But of veterinarians, the West is sadly deficient—deficient in knowledge of this kind, as well as attention. Improve the stock, and there will at once be wool, butter, and mutton, three things that sadly need raising here. The time is coming. Why delay it? It has already commenced; and the first profit is always the best. We came from the East, but we left behind many of its improvements. When we arrive here we think we have to do as others do around us. This is an error. The time is coming when the West will surpass the East as a stock-growing country. Its winters are so much more favorable, that the balance must necessarily fall in favor of the West. It is lamentable that so much grass land should run to waste as we see around us. Sheep can be kept in many parts of the West at 40 cents a head, per annum.—This is done; and yet, with the present high demand for wool, how few are bestirring themselves in this direction. F.G

LICE ON CATTLE.

One of the troubles of keeping stock is the vermin that oftentimes infests them. And what makes this trouble worse, is the fact that they are more abundant on lean cattle than on fat ones, and, as cattle grow poorer, the more abundant the vermin become. Some have an idea that fat cattle will not be infested with lice. This is a mistake. If you put fat cattle into a *lousy* barn, that is, into a barn where lousy cattle have been kept, they will get upon them; for the vermin will live a long time on the stantials, and around the cribs and mangers. These vermin infest cattle more while they are housed than when they run out in the summer, and it requires much care and attention to destroy them. Various expedients are resorted to for this purpose. Among the remedies proposed are the applications of oil and ointments. Common unguentum is often used, but there are some objections to it, as it is made of mercury, and is thought not to be safe for cattle to lick it, as they sometimes will while licking each other. Oils or grease of any kind will kill lice whenever it touches them. It will also prevent the nits from hatching, but it sticks the hair together, collects dirt and makes the cattle look shabby. A wash of tobacco, boiled in water, if applied, will kill them, but caution should be used in its application. We once knew of a fine cow being killed by being washed with a strong decoction of tobacco; and calves are more liable to be killed in this way than other cattle. It is a bad, soppy job to wash them, and in winter cattle will sometimes take cold by the operation. The best application that we have found for killing these vermin and also ticks on sheep, is tobacco smoke. It is dry, clean and perfectly safe. For a long time we found it difficult, with the several kinds of unhandy apparatus used, to apply it freely and easily—until getting a little vexed with puffing away with an old bellows with a swell nozzle, we set our wits to work and invented a Fumigator that will easily send out a cloud of smoke like Mt. Vesuvius. It is worked with a crank and will puff the smoke through a hose half a mile long if you wish. Indeed it will beat a street loafer with a short pipe out and out.—[*Maine Farmer.*

SKIMMING MILK.—S. L. Wattles writes to the *Country Gentleman*, "Our women have a way of taking off the cream without the use of the skimmer. They use a knife only. They run the knife around the milk in the pan, to separate the cream from the sides of the pan. Then they set the bottom of the milkpan at the edge, on the rim of the cream-pan; then with the left hand elevate one side of the milk-pan so that the cream with the help of the knife in the right hand will run off into the cream pan. After a little practice it is done very quickly, and saves both time and cream."

CORN-STALK FODDER.—Corn-stalks *ground* will give you all their strength, and make a good fodder. For horses, as well as cattle, it is highly recommended. The time is near at hand when all fodder will be ground—by machinery, instead of mastication. F. G.



HORTICULTURAL.

A NEW HORTICULTURAL FOE.

Last month we received from Thomas Murphy, Esq., of Atchison, Kansas, a small box of beetles, some of which we forwarded to Benj. D. Walsh, Esq., of Rock Island, for examination.

We here present to our readers Mr. Murphy's letter and the reply of Mr. Walsh:

ATCHISON, KANSAS, May 22, 1862.

ED. VALLEY FARMER: My object in sending them is to see if you personally, or through your valuable journal, can find out any method or remedy by which I can get rid of them. I cultivate about ten acres of land for the purpose of raising vegetables for my hotel; it is situated on high prairie land; last August, soon after a heavy shower of rain, these bugs suddenly made their appearance in large numbers on the potato vines. They were so numerous that in many instances they would almost cover the whole vine. It is no exaggeration when I tell you that we have often in a very short time gathered as many as two bushels of them. When the cold weather set in they disappeared. Early this spring I was setting out some apple trees, and away down in the hard, yellow clay I found these bugs apparently dead, but put them in the sun and they immediately came to life. They have again made their appearance in large numbers in my garden. Last year they first eat up everything green on the potato vine, then commenced on the tomatoes, and so on, on everything green. Strange to say, they trouble no one else.

Yours, &c., THOMAS MURPHY.

ED. VALLEY FARMER: The "bugs" or rather "beetles," sent you by Mr. Murphy, are the *Doryphora* 10-*lineata* of Say—in English—the 10-*striped Spearman*. The name of the genus *Doryphora or Spearman* has reference to certain tropical species, which have a spear-like thorn underneath the middle of the breast. Like a whole host of our noxious insects, it does not occur in the Eastern States, nor even in the eastern half of the Valley of the Mississippi. Say found it in Arkansas and Missouri, and states that it is "not uncommon" there. Dr. John L. Leconte quotes it as occurring in Kansas and Nebraska, and also on the boundary line between Mexico and the United States. It is also enumerated as an Illinois species, but I think erroneously, in Mr. Cyrus Thomas's *List of the Coleoptera of Illinois*. I have never met with it myself either in Northern or Southern Illinois. Mr. Murphy's account is the first on record of its occurring in gardens in such numbers as to be injurious. The colors of the insect are yellow and black, and the annexed drawing (Fig. I.) will give a very good idea of it. When we

Fig. I *Fig. II*

are troubled with an insect which is found both East and West, we can always sponge upon the labors of Eastern entomologists, who have been employed by the authorities of the Eastern States to experiment on the best methods of counterworking their insect enemies. But here—as in the case of the *New York Weevil*—we have an exclusively Western species to deal with, and are thrown upon our own resources. Science, however, enables us to say with certainty that the larva (or grub) of this beetle feeds upon living vegetable matter, and that it does not burrow inside the stem or stalk, but feeds externally on the leaves. We also get at another point in its history from Mr. Murphy's having found the perfect insect underground early in the spring; viz., that, unlike most species of the great *Chrysomela* family to which it belongs, it goes *underground* to assume the *pupa* state, preparatory to its coming out in the perfect or winged state.* The only doubtful question in its history is, whether the larva feeds in the garden on the same vines which the perfect insect attacks, or whether it breeds on the prairie on some wild plant, and after it has developed into the perfect insect wings its way into the garden. Figure II. represents the larva of an allied species, and that of our insect will probably be very

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* The allied genus TIMARCHA does the same; and I have myself found underground in Southern Illinois the pupa of a clay-yellow species of COLASPIS 3-20ths of an inch long, which my friend, Dr. John L. Leconte, tells me is undescribed, though it is quite common near Rock Island.

like it, and will perhaps be yellow with black spots and markings on its body.

The first thing in order for Mr. Murphy to do is to find out where the larva lives; for all insects are easier to fight in the larva state, and besides, if (as I rather conjecture from its being found underground where apple trees were being set out) it passes through all its three stages of existence in the garden, the main damage done by it will be done before it arrives at maturity, and therefore it will be best to nip the evil in the bud.

If, on investigation, the larva is found feeding on some wild prairie plant, Mr. Murphy should set a hand to work with the scythe to mow down all the specimens of the particular species of plant to be found in the neighborhood, whereupon the larvæ will die of starvation. For recollect, no larva has wings, and they cannot therefore, like the winged insect, fly off to some other spot where the peculiar plant or plants they feed on, grow. If, on the other hand, the larva breeds in the garden, which I should from analogy have concluded to be certainly the case if Mr. Murphy in his very full statement had not omitted all mention of them, I should recommend the following prescription, which can be tried on a small scale first, if thought advisable:

Take a quantity of tobacco and boil it in a strong lye, till it is completely eaten up by the lye, which it soon will be: then stir in enough coarse soap to make the whole of the consistence of thin cream, and if not thin enough when used add more water. Take a watering-pot with the rose on, and water the vines where the larvæ are found, repeating the operation every day or two till the enemy is poisoned. On a large scale, a garden engine will be found cheaper than a watering-pot; and in trying the experiment on a small scale, care should be taken to select an isolated patch of vines, so that the larvæ may have no chance to crawl off elsewhere. It will then be with them, not "root, hog, *or* die," but "gnaw, grub, *and* die." Your correspondent should bear in mind, that, as he himself states that none of his neighbors are infested by this pest, if he can succeed in extirpating them this current year, he will probably not be bothered with them in succeeding years; otherwise it might fairly be objected to the prescription that "it costs more than it comes to."

BENJ. D. WALSH.

Rock Island, Illinois, May 29, 1862.

An ounce of wit that is bought is worth a pound that is taught.

[Written for the Valley Farmer.]

CURCULIO.

Dr. House, of Avoca, Steuben Co., N. Y., saved his plums by removing with his thumb nail the larva deposited under the skin of the plum. This occurred when the fruit was from a quarter to a third grown. He commenced his work as soon as the depredation of the insect had ceased, so as to be sure that no more eggs would be deposited. This will be thought a laborious task that don't pay. But let the reader not be too fast. Dr. House is one of your practical men, who scouts the idea of mere theory. He has a nice lot of plum trees. Wishing to save his fruit, he instituted a careful examination of the premises. With microscope and book in hand, he investigated the subject carefully. He came to the conclusion he could save his fruit in the manner above described. He went at it. The writer of this, being present, expressed his doubts, both as to its efficacy and its practicability. "It won't pay," on my part, was answered on his by the ladder, and the clearing of the fruit of all marks of the curculio. When the trees were cleared, I was surprised at the comparatively short time it took to clear them, loaded as they were with plums. The slight wound soon healed over with a healthy skin, and the fruit grew to its full, perfect dimensions. I was witness of all this, and can recommend the mode.

F. G.

THE DELAWARE GRAPE.

Mr. John E. Mottier, one of the most reliable and successful vintners, of Cincinnati, Ohio, thus speaks of the Delaware grape in the June number of the *Horticulturist*. He says: "The first notice I took of the Delaware grape was in 1857, on a visit to Mr. Schneike, at Mount Adam, on Mr. Longworth's place. I found his entire crop of Catawba and other varieties destroyed by the mildew and rot, while the Delaware stood perfectly sound without the least appearance of disease, although surrounded by the Catawba, which was almost entirely destroyed. Since that time, I have grafted and planted the Delaware as fast as I could possibly get the plants. I shall plant largely this spring, because I think it is the best hardy grape we have, either for wine or table use, growing strong, ripening two or three weeks earlier than the Catawba, the berries hanging longer on the vine after they are ripe, and the leaves remaining on the vine longer than is the case with others. The last season was unfavorable for the grape crop, as there was too much rain.

My Delawares did well, being the only kind not affected by the mildew and rot. I lost nearly one-half of my Catawba crop, while the Cape, (that never suffers as much), Herbemont, Isabella, Union Village, and other varieties all suffered badly. I think the Delaware, though the berry is smaller than the Catawba, will turn out as much wine to the acre, and of a superior quality. I am fully of the opinion that the Delaware is the best of all our hardy grapes, either for wine or the table. As for my own taste, I have never tasted any grape that I like as well as I do the Delaware, neither have I seen any one who has tasted it, who did not agree that it was the best grape they ever tasted. I place it at the head of all the grapes, as the best table grape, as well as the best wine grape; as an early ripener, as hardening and ripening the wood to the end of the growth, and possessing a vigorous habit, and keeping its leaves on longer than any other variety.

Stone Jugs vs. Tin Cans for Fruits.

W. B. B., of Southern Minnesota, writes to the *Agriculturist* thus:

"Here at the West, tin cans costs at least 33 cents per gallon, and can be used but once, to which must be added considerable more if you live far from the tinman. The 'self-sealers' cost 45 cents a quart here! Stone jugs cost only a York shilling (12½ cents) per gallon, and will last for years. On three years' trial, we find the jugs preserve the fruit better than the tin cans. We fill the jug while standing on a hot stove, and while the contents are boiling hot close them with a cork or nicely fitting plug of soft wood, covering with melted sealing wax or resin."

Upon this the *Country Gentleman* remarks:

"After using hundreds of tin cans, common and self-sealing, we have discarded them entirely, and advise others to do so, on account of the danger there always is of the corrosion of the tin and the production of poisonous salts. Well-glazed stoneware, jars, bottles, or jugs, answer well. We prefer glass, however. The dark colored glass is cheap. We use wide-necked bottles, one and two quart sizes—mostly quarts—corking while hot, wiping clean and dry, and covering with cement made of one pound of resin with about one ounce of tallow melted together. The bottles are then set necks downward in small tin patty pans, costing a penny apiece, or in old saucers if these be on hand, and cement enough is dipped in to completely envelop the top of the bottle neck. This entirely shuts out access of air. If the bottles be filled with hot fruits, and be corked and sealed while still hot, the pressure is always inward, but the tin or saucer covers prevent the cork being forced in by the air. We merely heat the fruits through in a kettle, dip them into the jars or glass bottles of any kind, and seal as above. The experience of two years proves this mode to be the cheapest and best."

Summer Pruning of the Vine.

At a late meeting of the Northern Ohio Grape and Wine Growers' Association of Cleveland, the following letters were read from Charles Carpenter of Kelly's Island, and R. Buchanan, of Cincinnati:

CHARLES CARPENTER'S MODE.

The many directions given for summer pruning grapevines are enough to bewilder the novice, if not those of some experience, and I hope, in attempting to elucidate, I shall not further mystify the subject. As a general rule prune as little in summer as you can, and do not let the vines get so thick as to cause any of the leaves in the thickest places to turn yellow, or deprive the fruit of plenty of light and air. The winter pruning should be more severe than is usually done. The vineyard culture, where forty or forty-five superficial feet of land are allowed to a vine, from thirty to forty eyes to a vine for bearing are plenty for most varieties. Never leave over one bud or joint per surface foot of land where the soil is favorable; and where it is unfavorable, the vines should be planted farther apart, and a less number of eyes for a given surface left.

Now if the winter pruning has been properly done, but little will be necessary in summer, and should commence early, by removing water sprouts, superfluous buds, and, whenever, from short-jointed canes, or too close training of them, there will evidently be too dense a mass when grown, thin out a part.

As soon as the fruit is set, select the shoots for next year's bearing, which should be grown on spurs, on the lower part of the stock, and trained as much as practicable aside from the fruit, and above it, and have the laterals picked out for three or four feet, so as to have a clean cane for next year, and keep the vine open near the fruit. Beyond this, remove no laterals, nor stop the ends of their canes.

Some of the fruit-bearing shoots, particularly those near the ends of the canes, will incline to make too much growth; these may be stopped at from three to six leaves from the last cluster of fruit. Of the fruit-bearing shoots, except those near the ends of the canes, but few will need stopping, if there is a full crop of fruit, and proper attention is given to tieing up so as to keep the growth *spread* and open. Always endeavor to prevent growth by stopping ends, and removing buds, rather than to cut away after the growth is made.

In all summer pruning and tieing up, care should be taken that fruit grown in the shade should not be exposed to the direct rays of the sun. If the shade under which it has been growing is removed, it will surely be injured, if not spoiled.

The best grapes are always grown in the shade of the foliage. They require light and circulation of air. Those grown under the direct rays of the sun, are smaller, harder pulped, and inferior to those grown where they have considerable protection.

ROBERT BUCHANAN'S MODE.

At your request, I will give you a brief account of "Summer Pruning," in our vineyards,

as practiced by myself and others. You are aware that vineyard culture of the grape for wine-making is a system of *dwarfing* the vine; the object being to obtain, in the most simple form and at the least cost, *a wine grape rich in saccharine matter*. We therefore plant close, (generally three by six, or four by seven or eight feet apart), and train on low trellises or to a single stake—the latter preferred.

In spring pruning, we leave a cane or branch of the last year's growth of ten or fourteen joints, to be bent round in the form of a bow, and fastened to the stake with a willow tie. This is to bear the crop, and will usually set from twenty to thirty bunches, which the rot or other casualties may reduce to fifteen or twenty, and that will be enough. A spur of two joints is also left to bear new wood for the next year's crop, and also a few bunches of grapes. It will thus be seen, that the whole strength of the vine being thrown into a few bunches, the fruit must, of necessity, be rich in sugar, the great essential in making a good wine, that will keep and improve by age.

By long pruning, I can produce double the quantity of grapes on the same vine, but they will not be *wine* grapes, nor will the vine be as lasting. *Wide planting* will admit of longer pruning, and a heavier crop to each vine; because the vine—which is a selfish plant—will have more nourishment, and light and air.

The first process in *summer pruning* is to rub off the suckers that spring out from the stalk near the ground. It is well, however, to leave one to grow, if the stalk is getting too high, that in two or three years the old wood may be cut down to this. The head of the stalks should be kept down to within one or two feet of the ground, or the bearing wood will get too high. The next, is to pinch in the ends of the bearing branches, two or three joints beyond the last bunch of grapes, soon after the bloom is over and the berries well formed. Leave two of the strongest branches untouched, to make bearing wood for next year.

As the vines now grow rapidly, the branches of the young wood should be tied up to the stake or trellis with rye straw or other ties, or they will be broken off by the wind. Take three rye straws, cut off the heads, bind the young shoot to the stake, and fasten by twisting the ends under, as in binding a sheaf of wheat. It is very simple.

The lateral shoots that spring from the ends of the leaf, will have to be cut off from the bearing canes intended for next year, as high as the top of the stake; then let them alone. The laterals from the fruit-bearing branches, will, in many instances have to be removed, to give light and air to the fruit At the same time, the fruit must have shade enough to protect it from the scorching sun.

If the rot appears, stop cultivating and pruning until it ceases; merely tie up the vines.

Never break off the ends of the bearing wood for the next year; it might cause the premature starting of the fruit buds. Never remove the leaves from the bearing branches; they are the lungs of the plant, and necessary to mature the fruit. Our cultivators here do not now favor close summer pruning. These directions can be applied to trellis training, as well as to stake.

REMARKS BY VARIOUS MEMBERS.

After the reading of these letters, Capt. Stewart said: In all his practice, he endeavored to arrange for bearing wood as low down as possible. Never has bare branches over two feet from the ground. As the laterals advance in their growth, he pinches back or stops in when they have made three or four leaves, if left too long, he thinks it injurious. Leaves the wood designed for next year's bearing as long as possible, but keeps it from shading the fruit. In training on a trellis, he endeavors, as much as possible, by pinching back, to force spurs, thus increasing the chances of fruit. Mr. Buchanan's letter, just read, is a good description of the practice he would recommend.

Mr. Schneider said the letter of Mr. Buchanan covered his practice, and he could add but little.

Mr. Porter thought Mr. Buchanan's letter was good instruction. Thinks the growth should be cut back during the season, from time to time. Thinks the canes quite as good or better when clipped back—the buds left, mature better. His vineyard being on a side hill, he has practiced carrying the fruiting wood higher than he would consider necessary on a level, because of the splashing of dirt upon it in times of rain.

Capt. Stewart thinks that cutting back leading canes too early sometimes forces dormant buds intended for another year and thus does injury. Would, however, pinch back laterals when they are six inches long.

Mr. Porter would pinch back laterals when the last grown leaf is about one-third its full size, or at about eight to ten inches long.

Mr. Schneider cuts back laterals in August to one bud next to the old wood, but leaves all up to this time, as this is about the close of the growing season. If he had time, he would never permit sprouts to start from the crown or vine near the ground, but rub them off as they show; but for want of time, he leaves them on until they are from one to three feet long, and then cuts them. This is economy of labor at the expense of the vine.

Mr. Porter would cut all leading canes one foot or more, according to the strength of the cane, early in September.

Capt. Stewart and Mr. Porter both thought cutting back laterals, at any time, would not hurt dormant fruit buds intended for another year. If time was abundant, they would prefer doing it all along during the season; but for want of time, Mr. Schneider's practice of cutting back in August should be adopted.

Mr. Schneider said, in pruning, whether on trellis or posts, he would pursue the same course. He would cut back his leading canes in September, before the grapes began to color. Cuts back one or more feet, according to the strength of the cane.

Mr. J. A. Brayton, of Painesville, thinks it difficult, if not impossible, to give any rule that should govern practice on all vines. Practice and judgement are both essential; and although general rules may and must be adopted, special

rules will not answer, as applied to all vines. Has now an Isabella vine, of one single cane of bearing wood, sixteen feet long.

Mr. Joseph Perkins said: If the vines are in dry soil, the time of cutting back should be varied from vines in wet land. Had found that cutting back his vines proved an injury, rather than a benefit. It weakened the vine, and rereduced its powers in every way.

Mr. Porter thinks the more strong sunlight the better, therefore the benefit of cutting back; but would not cut so as to force out small, weakly, secondary growth, as such would be injurious.

Capt. Stewart thinks leaving laterals until August before stopping, gives too great a check to the vine, and often injures the fruit and vine.

Mr. Elliott thinks, that as the evaporation is greatest in August, it is the best time to prune, as it decreases the strain upon the roots; and as nearly all the growth is then made, whatever juices are elaborated by means of full-grown leaves tend to benefit the remainder of the plant in adding to the strength of the dormant buds for next year, the quality of the fruit, and the size of remaining canes. Would prefer, however, not to prune at all, than prune without reference to the strength of the plant and its demands. Thinks that more injury is done by too much cutting, than by too little. Should hesitate about cutting back leading canes as early as the first of September. Thinks it should not be done until the terminal bud is fully formed, as, if done earlier, young shoots and grape blossoms are formed, and thus the power of the vine is weakened for another year.

KILL THE MILLERS.

A farmer in New Jersey, says:

Some ten years ago I purchased the property where I now live. The former owner, being quite a man for fruit, had set a large variety of trees. The farm was noted for producing more fruit, and greater variety, probably, than any other farm in the neighborhood.

At the time of my purchase, the trees were on the decline. The cherry and plum trees were covered with black knots, and the fruit was wormy and worthless, so that I was about to cut them down and supply their places with shade trees; but disliking to part with the fruit, and observing that the enemies were at one stage of the existence in the form of a miller, my plan was to destroy them while in that stage. With that object in view, and observing that they were fond of a light, in the early part of the summer of 1855, I commenced their destruction.

To do this I elevated a brisk blaze about five feet from the ground in the vicinity of my trees. The first evening, between eight and eleven o' clock, the millers destroyed might have been counted by hundreds, which gradually diminished, so that at the end of one week, there were none to destroy. I then discontinued my fire until the latter part of summer, when I discovered another crop of millers, and again built them a blaze. I have followed the same course whenever the candles have drawn them, to give them a light of their own, which has been twice in the summer.

Now for the result: My trees have gradually resumed their former rich green; those knots have fallen from the cherry and plum trees; and this year the crop of Morella cherries has been probably as large as they ever were, and that on trees that were considered worthless five years since, and the fruit, both cherries and plums, not wormy.

Raspberries and Blueberries in Minnesota.

Noticing a short time since an article in one of our exchanges about some of the fruits in Minnesota, we addressed a note to the writer, and have received the following reply:

Ed. Valley Farmer: In answer to your favor of the 21st inst., I would say, that our wild Red Raspberries are not so firm as the black, but I think there is quite a difference in them in different localities, which may be attributable partly to soil or the variety. The kind I have selected to propagate from, grow canes from three to four feet high, perfectly straight, and need no trellises. I selected them for their size of fruit, and find them very prolific, but do not consider them so firm as you desire. A friend now present informs me that in a large patch of wild ones about one mile distant, they were noticed last year to be very firm. To satisfy you better, I will the coming harvest gather and send you seed, and in the fall send you a parcel of the canes of the different kinds: you may find something that will be worthy of trial.

Our Blueberries I have never known by any other name, being similar to the Whortleberry, but of a bluish color instead of black, growing upon bushes from six to twelve inches high and very prolific. The fruit is much sought for, and always finds a market. Have never known them to be cultivated, as they grow in great profusion wild. The price ranges with the supply from three to twenty cents per quart. Will send you seed or plants as you may desire. The fruit is of same shape and size as the Whortleberry or commonly called Huckleberry, and in no way resembling the Dewberry. They ripen at the same time with the Raspberry. They seem to delight in our sandy soil, and it is no uncommon thing to see acres covered with the bushes. If I were to cultivate them, I should put them in drills same as white beans, and the drills just wide enough apart to work with the cultivator. I intend to give them a trial as soon as possible with the view of increasing the size of the fruit.

The Mississippi river makes about a mile of the boundary of my farm, and I am just twenty-five miles above the Falls of St. Anthony.

Should you come again to Minnesota, stop with me. I think I can show you soil I am now working that would please any cultivator. I am seeding down about 20 acres of my old field, and breaking up new soil where the Hazel grows 6 and 8 feet high. Anything that grows in Minnesota will grow there. Land lays sloping to the South and South-West, and is mostly sodded to the waters' edge. I had my choice of location when I first settled here in 1849, as I had but one white neighbor nearer than two miles, my next nearest being five miles distant.

Two steamboats pass here daily, running between St. Anthony and St. Cloud, a distance of 75 miles, and quite a settlement is springing up within a mile of my place, where I find a market for Asparagus and Pie Plant, also at a larger town nine miles distant South, and another village five miles North.

Having taken the lead, I shall strive to keep it at present. As soon as R. R. is finished, I hope to have enlarged my facilities so as to send produce to St. Paul and St. Anthony. Our taxes are very light here, and I can raise garden stuff at much less expense than the farmers nearer St. Paul.

O. H. KELLEY.

Itasca, Anoka Co., Min., May 31, 1862.

[Reported for the Valley Farmer.]

Meramec Horticultural Society.

EUREKA, June 5th, 1862.

The forty-second monthly meeting was held at the house of Mr. John S. Seymour. President Morse in the chair.

On motion, the reading of the minutes of the former meeting was dispensed with.

It was on motion, RESOLVED, That three additional members be appointed to assist the Executive Committee in making the arrangements for the coming Exhibition of the Society; whereupon the President appointed Dr. J. B. H. Beale and Messrs. P. M. Brown and L. D. Votaw said Committee.

Three new members were admitted.

The Corresponding Secretary read a letter from Mr. O. Kittredge, stating that circumstances had caused him to change his residence and necessitated him to resign his membership in the Society, and presented to the library of the Society a large and valuable collectionof books and pamphlets.

It was on motion, RESOLVED, That the profound thanks and warmest sympathy of the Society be tendered to Mr. Kittredge for his devotion to the cause of Horticulture; for his kindly bearing among the members of the Society, and for his generous interest in the future prosperity of the infantile library of the Society.

The President appointed Mr. Jas. Shields Chairman of the Vegetable Committee, vice O. Kittredge, resigned.

It was on motion, RESOLVED, that as several varieties of the smaller fruits and of cherries will ripen before the next meeting of the Society, of which members and friends may be inclined to present specimens to the notice of the Society—in these, or any similar cases, they are requested to hand them to the Chairman of the Fruit Committee for the action and report of that Committee.

The Executive Committee reported as a subject for the next meeting, "The Propagation of Grapes from Layers, and the Fruits and Flowers on Exhibition." Adopted.

The Fruit Committee presented the following report:

Your Committee are pleased to report much the finest display of strawberries that has ever been exhibited in our Society. A very large proportion of the members are exhibitors of the best varieties grown. This is quite encouraging to us as a Society, as evidence of progress in the culture of this delicious fruit. It is only necessary to mention that at our first June meeting three years ago, we met with Mr. Haven at Melrose for the purpose of SEEING and eating strawberries, he being the only member in the Society who at that time was cultivating them.

Since that time we have had at our June meetings a few by one or two exhibitors. But now we see before us certainly a very fine display, that we are vain enough to imagine would do credit to a meeting of the Cincinnati Horticultural Society.

In the limits of this report we cannot undertake to mention all the varieties. In size and QUANTITY, we find Wilson's Albany ahead of all others. At present it seems to be the leading berry throughout the county. That it will produce great quantities of large firm fruit on any kind of land and under almost any circumstances, is no longer doubted, and from the immense amount consumed at dinner (so liberally provided by Mr. Seymour) it would seem that we should say they are at least good. Still we cannot. It was the sugar and cream that was good, NOT THE BERRIES.

Mr. Seymour, Mr. Arnoldt, Dr. Beale, and the President (Dr. Morse), were the rivals in the exhibition of this celebrated market berry. Those exhibited by the three first gentlemen were immensely large, and looked as though they had all come from the same vines. Those by Dr. Morse were nót so large, but BRIGHTER, in consequence of having been grown on thin gravelly land.

The Triomphe De Gand shown by Dr. Morse, is certainly a berry of much real worth. It has to a very high degree three of the most valuable requisites a strawberry can possess. First, it must rank as best in quality; and, second, it is sufficiently firm to bear marketing well. Third, this berry is of large size, notwithstanding it will not from the same ground make, perhaps, more than half as much fruit as the Albany; but must from its superior quality soon rival the Albany to a great extent in the St. Louis market. When fruit of this kind gets to be very plenty, people will begin to look for the best, and in buying not be governed entirely by the eye as heretofore.

The Cutter's Seedling, by Mr. E. R. Mason and Mr Muir, is like the Triomphe, of fine quality, and with some quite prolific. Mr Mason values it highly. In character much like McAvoy's Superior, which by many is considered the best strawberry. It will be planted by many of the members next spring.

Dr. McPherson shows 4 varieties (bought for) Hooker's Seedling (not true), McAvoy's Superior (true), Longworth's Prolific and Jenny Lind, all very ripe and badly carried.

In answer to the question, what would you plant for the best market berry, which was answered only by strawberry growers, they all (10) said Wilson's Albany. Three of them said the Albany first, and Triomphe De Gand second.

Mr. Seymour thought it would be as well to raise the Albany for 25 cts per gallon as any other for 50 cts.

Dr. Morse exhibited 9 varieties, 5 of which he valued in the order named: Wilson's Albany, Triomphe De Gand, Jenny Lind, Longworth's Prolific and McAvoy's Extra Red. This last he values most for prolonging the season.

Dr. Beale has a very fine sample of early May cherries, very prolific and good in quality. Also Cherry and Red Dutch Currants, looking fine.

The Secretary, Mr. Muir, has a fine specimen of a most excellent cherry, supposed to be Belle De Orleans.

Mr. Jas. Shields, 2 varieties of cherries, one the May Duke, the other not known.

Mrs. Blakey, a magnificent branch of the American Upright Gooseberry, berries large and healthy; no signs of mildew.

Last, though not least, was Mr. T. R. Allen's show of perfect, fine looking apples, which demonstrated clearly the keeping qualities of the 4 varieties shown here the first Thursday in June. The Newtown Pippin, Jeneton, Willow Twig and Priestly. In appearance all looked fine and perfect. But when cut, they were all wanting in flavor—their season has ended some time since. A. W. McPherson, Ch.

The Flower Committee reported finding on the tables of the Society a superb collection of the Floral Beauties of the season: a fine collection by Norman J. Colman, consisting in part of the exquisite Laurel (Kalmia), in bloom; 3 varieties of Fuchsia; 4 varieties Clematis; 8 varieties Pelargonium, Lonicera, Pubercens, Nerium; about 50 varieties of Hybrid Perpetual, China and other Roses, including some of the finest novelties of the season, and the curious green rose, or Viridisissima.

Mr. B. Arnoldt had a collection of 20 varieties of the rose.

Boquets by the following ladies in their respective order of merit: No. 1, Mrs. J.S. Seymour, marked by great care in its execution. No. 2, Mrs. Blakey, fine variety, but less carefully put up. No. 3, Mrs. Beale, a good variety, with very pleasing NEGLEGE marking its appearance. No. 4, Miss Nicholas. No. 5, Miss Lizzie Shields. No. 6, Miss M. McPherson.

The Committee begs to remark that in considering the merits of the several boquets, while the number of varieties in some of them indicate a fine collection, still the taste displayed in the arrangement has to be taken into account, and this rules in a marked degree in the three first on the list. W. Muir, Ch.

The society was presented with fine samples of Norton's Virginia Wine by Mr. E. R. Mason. From Mr. Jacob Rommel, of Hermann, one of the vintage of '58, of excellent quality, and indicating that its age must be calculated by DECADES and not by single years in order to judge of its sterling merits; the other of '59 was also an excellent article; both possessing the color, body and flavor of wines that will yet make their mark in the future of our State.

Mr. J. S. Seymour also presented most liberal supplies of his superb pure Blackberry Wine, which has so frequently elicited the highest enconiums as a pleasing, strengthening, and very health restoring wine, particularly adapted to those suffering from, or liable to, attacks of summer complaint or any of the various forms of Diarrhœa, so prevalent during the summer months.

The subject for discussion, "Bee Culture," being in order, the Secretary was called upon to state his views: He remarked that it was a question in the minds of some, whether bee culture came within the scope of Horticultural societies: he thought that it did. It was a rural occupation, intimately connected with the Farmer, the Fruit Grower and the Florist, and as a sphere for the Naturalist nothing was more replete with interest in a mechanical, chemical, anatomical, or social point of view. The historical part of the subject there was not time to consider; but the utility and economy of having bees to collect, unite and preserve for the use of man those infinitisimal particles of Nature's choicest sweets that float in the atmosphere and would be lost to our use, which no human ingenuity with all the appliances of mechanism and chemistry could collect, and which these little winged embodiments of social order and industry treasure up to the extent of at least 25 lbs. per colony—must be obvious to every reflective mind; and the fact that the very quintessence of all our fruits and flowers would be lost without the labors of the bee is worthy of our attention.

Their office, in common with many other insects, of fertilizing flowers in which the pistils and stamen are disproportionate, or borne on different blooms, or different and often distant plants, is one of vast importance, and their use of this pollen, after it has performed its work of fertilization, in the manufacture of propolis is one of the most extraordinary and beautiful arrangements among the works of the INFINITE ARCHITECT.

In the management of the bee, consequent upon an extended knowledge of its nature and habits, we have made vast progress. In Europe and in this country the most refined and philosophic minds have been devoted to their study, and the almost perfect domestication of these "little wonders" has taken the place of the barbarisms of smoke and sulphur of the olden time. The old-fashioned rustic straw hive, so long familiarized to the mind as the symbol of industry, has still a POETICAL charm for us, but the modern hive of Langstroth has a HUMANITARIAN and PRACTICAL value that renders bee culture as simple as it is pleasant and profitable. No one can read Langstroth's work on the Hive and Honey Bee, without being delighted with the subject; and as many of the members have for years had bees on the old system, we commend this system to their careful consideration.

The President remarked that the Honey Bee was a subject of the deepest interest to the naturalist, whether considered in their social arrangements, their mechanical ingenuity, or their industry; but there were some persons who could not venture near them or have anything to do with them, and facetiously remarked upon the old-fashioned practice of committing murder and robbery to gain possession of their stores.

Mr. N. J. Colman said he had been familiar with bees his life long; has this season hived a number of swarms, and always keeps 15 to 20 swarms, and have not been stung more than four times in my life. I have the Langstroth, Kelsey, and several other IMPROVED hives; but like the old hive best, because it can do best with the least care. The Langstroth and other moveable comb hives are liable to this objection, that they require constant care to prevent the bees cementing the moveable frames together so as to make them quite fast to the hive. The old box hive, made of clean pine, without planing or painting, made to contain one cubic foot of space is the simplest, cheapest and does best with me. Large hives were faulty in taking too much honey to fil them, and the bees will not go up into the top to make the surplus honey till the body of the hive is full. By making a box 12 inches square inside and 12 inches deep, put on a top with some holes in it; and then another box the same size to receive the surplus honey, either in the box itself or in small glass boxes put within it, the honey was pure and clean, free from brood, and not run over and dirtied or rendered dark in the color, and was in the best condition for market. The moth is the greatest evil in the way of the bee keeper. The hives must be examined every two or three days for this intruder. To raise bees successfully you must give them attention; they will not get along by themselves any more than corn or anything else; and if you go into it with the improved hives you must make it a speciality. One thing is desirable, scatter the hives as far apart as you can, because where they are close together they fall more easily a prey to the moth.

Dr. Beale—A moth trap can be made by cutting a piece of corn stalk. Remove the pith, and cut into convenient pieces, and lay with cut face down in the hive. The moth will lay the eggs there, and you can thus at once clean them out and replace the trap.

M. T. R. Allen—I found some fine honey in the market some years since, and recognized in the seller an old acquaintance Mr. Chas. Lewis. I got into conversation with him on bee-keeping, and he inform-

ed me that he had a new hive, with a sloping bottom, and the hive was suspended, completely preventing the ravages of the moth. It was made like a square box, but with the lower edge of the back part made shorter, and the bottom then projected a little in front for an alighting board. The box swinging, the moth was not apt to go to it; if it did, and deposited her eggs, the bees could easily roll out the eggs or grubs down the sloping bottom.

N. J. Colman—I met this Mr. Lewis, who informed me he got his ideas from the VALLEY FARMER, from an article written by Mr. E. Link, of Greenville, Tenn., at my request, in consequence of a controversy that Mr. Link had with Mr. Quimby. Mr. Lewis and several others have tried Mr. Link's system, and succeeded well with it.

Mr. Davis—Saw similar hives at the house of Mr. N. Tindall, on the Manchester Road; they are also used by Mr. W. B. How in the same neighborhood.

Mr. Harris found a difficulty in getting the bees to go up to the spare honey boxes at all.

Mr. Colman thought the body of Mr. H.'s hives were too large, the bees would not generally go up till the lower part was full; the Langstroth hive was too large and caused the same difficulty.

Mr. Harris—Small boxes are apt to have too small and weak colonies; has tried large and small boxes, and finds little difference in the bees going up; but the large box is apt to have the strong colony.

Mr. Votaw found that the moth was most fatal in hives with rents and crevices, and he had some fine colonies that had plenty of honey and were destroyed in the severe frost of the early winter by having the top sprung and open. I lost four hives in this way, and got 5 gallons of honey out of them. Weak hives I always kill at the beginning of winter; I think that better than having poor colonies—and what honey they have I take. As to wintering bees, I never tried to bury them; have seen experiments of wintering in the cellar—one was successful the other was not.

The meeting adjourned for dinner.

The afternoon session (Vice-President Beale in the chair) was opened by discussing "The Fruits on the Table."

Mr. E. R. Mason was requested to state his opinion of the Cutter's Seedling Strawberry. He obtained the plants a year ago last spring, let them run to their utmost in order to obtain plants, and this spring have been pleasingly disappointed at their condition, being a beautiful, rich and high-flavored berry, and quite large, although not so much so as those of my neighbor, Capt. Swan, who planted at the same time from the same lot of plants, but cultivated with a view to fruit, and his berries were much larger, being as large as the Wilson's Albany, and much sweeter and of a fine high flavor.

He put up some berries to bring to the meeting, and set them on the porch, and in the hurry of shipping to St. Louis they were sent off by mistake, and just as he was leaving he discovered it, and sent a lad to gather some of those left after the crop had been gathered for the day, so that the berries here are not at all samples of the fruit. This variety is very rich, high-flavored and productive, and must be marketed the day they are gathered. Does not think they will produce so much per acre as the Wilson in the same time; but, as their season is so much longer, they will produce as much upon the whole. They are said to produce for three weeks longer than any other. Capt. Swan thinks very highly of them. I would like Mr. Mudd to give his opinion of what he saw of them.

Mr. H. T. Mudd—I went to Mr. Mason's to see the Cutter's Seedling; examined it side by side with the Wilson, Longworth and several others, and think it best in flavor, fine and clean, of all the others. Its long foot-stalk keeps it clean and bright, and its very fine quality renders it desirable for the family, and it will be in the market when the Wilson's Albany will be rejected.

N. J. Colman thinks a little less of the Cutter's Seedling this season than before, having had it in bearing; thinks it will not produce one berry for five of some of the others. Mr. Sanders saw it, and thought the same of it. Does not think it will compare with the Triomphe De Gand, Hooker, Fillmore and some others. Its long foot-stalk will not support many berries, and to keep them up must be mulched. There is much difference in soil, and it may not do as well in my land. I think the Downer's Prolific and Triomphe De Gand much more productive.

E. R. Mason—I think much of the Triomphe De Gand, but don't think it will bear one-fourth as much as the Cutter's Seedling. I planted out 2,000 of the Triomphe De Gand this spring.

Dr. Morse—I have here nine varieties, but there are not many that are worth much. The Hudson is a good berry and is among the earliest, but small. The Carolina Pine is a staminate plant, a poor bearer, worthless. McAvoy's Extra Red has some good qualities; bears its fruit well up from the ground; it is sour. Large Early Scarlet I raised in New Jersey, it was at that time one of the best berries in New York market, but does not do so well here as there. Jenny Lind; this sample is hardly average size; good for table; it bears well, but not equal to the Wilson's; saw no difference in the time of ripening. Triomphe De Gand; there have been many picked from the bed, and the size of these does not equal the others; I think highly of it. Wilson's Albany has done well; for fine color I can put them against any in the county, although Mr. Seymour's are rather the largest. I think they would be better with better cultivation. Commenced marketing on the 20th of May, and could have commenced three days earlier on a larger patch, but the quantity I had would not pay shipping. Washington I think highly of; ripens early. Longworth's Prolific very good. Triomphe De Gand will take about one-fourth the sugar of the Wilson. Will plant it out largely next season. Wilson is sold from its fine appearance.

W. B. Arnoldt—Thinks the land should be prepared for strawberries the same as for grapes. Sandy soil is best. I think much more of Trollope's Victoria on my soil than I did before. It bears very well; is firm and of fine flavor; it ripens suddenly.

N. J. Colman had some of the Trollope's Victoria, and plowed them up.

Dr. McPherson thinks more highly of strawberry culture this year than before.

Mr. N. J. Colman thinks it is being ruined in St. Louis market, and distant markets have now a home supply.

Mr. Carew Sanders—The Wilson's can be sold cheapest in market from their size and productiveness.

A discussion was had on the relative estimate of the different varieties, which space prevents giving.

The next meeting was announced to be held at the house of the President, Dr. Morse, in Allenton, on the first Thursday in July, at 10 A. M.

On motion the meeting adjourned.

WILLIAM MUIR, Sec.

TO MAKE SUPERIOR VINEGAR AND PICKLES.—To one gallon of soft water add a pint of sugar, or sorghum molasses, stir all well, and then add nearly a gallon of fresh and ripe tomatoes. Now set the vessel aside, and in a few days you will have the sourest pickles I ever tasted, and nearly the best vinegar.—[*Scientific American.*

WHISKY PICKLES.—Three quarts of water to one of whisky. As you pick your cucumbers, or whatever you wish to pickle, put them into this preparation, and in three weeks you will have good strong pickles.

Thumb and Finger Pruning.

Now is the precise season, say from June 15th to July 10th to perform one of the most important operations in the apple orchard; that of removing the young shoots which started in the spring, and have made a growth of from one to six inches in length. These shoots start out mostly on the upper side of the large branches, grow with great rapidity, and if not arrested early, form that part of the tree which it is the most dangerous to cut off. If they are allowed to grow two or three years, they are sometimes an inch through at their base, and cannot then be removed by saw or knife without leaving an ugly scar upon the tree, and the wound becomes a dangerous one, unless made when the tree is in a favorable physiological condition, and it is treated with proper skill.

It is *natural* for apple trees to throw up a thick, bushy head. Whoever saw one that sprang from the seed in a pasture, and that had not been fashioned by the hand of man, that presented any other form? This original impress seems to retain something of its power even after the tree has been budded or grafted, so that it requires the constant watchfulness of the orchardist to train his trees into those forms that make them most convenient for cultivation, and for the harvesting of their fruit. In order to do this it must be remembered that all our budded or grafted trees are in an artificial condition; they have lost much of their original character by the process of moulding them to the will and purpose of man. It is just so with the peach, plum, potato, celery, and many other plants. In changing them as we have, they probably lost something of their native hardihood and vigor, and will always require more attention than trees in their natural condition.

The summer pruning is a part of the artificial process.

There should be little use for the saw or knife in an orchard less than forty years old, unless in case of accident; after that time, or perhaps ten years later, some of the limbs begin to die, and then these tools become necessary. The pruning should be performed when it can be done with the thumb and finger—and now is the time to do it. Pass through the orchard, examine all the limbs that start directly from the main stem of all the trees, and wherever young shoots are found rub them off, being careful to take them so close as to prevent an aftergrowth. They should all come off with a single exception, viz: If the tree, by accident, unskilful pruning, force of wind, or any other cause, has lost a proper balance, if one side has more branches than another, or if the top is open and too much exposed, then leave one of these young shoots, and train it to occupy the very place you wish to have filled.

By this process of pruning, you will rarely need to use the knife; the trees may be brought up smooth, and with symmetrical form, and they will not be full of internal wounds to weaken them, and hasten their decay in later years.

Let us urge upon the young orchardist, at least to try this method now, and if the knife and saw are necessary, now is the time to use them.—*N. E. Farmer.*

Budding the Grape.—I have a matter of interest to many of your numerous subscribers, and perhaps to yourselves. Listen, and I will tell my story. Last fall (1861) I was pruning my grape vine a little, finished, and stood thinking about vines. The thought of inoculation came up. I obtained a branch of Diana, and put two buds carefully into a vigorous Isabella. One of them is now growing nicely, about six inches in length. Some grape growers laughed at me last fall. But they give it up now. Perhaps I am telling you an old story; but never mind, tell it, and it may interest others, for it strikes me that inoculation is better than grafting.

Pruning the Grape.—P. B. Mead, Esq., editor of the *Horticulturist*, at a recent meeting of the Brooklyn Horticultural Society, stated: "Whether I pruned in the autumn or spring, I would leave at least three buds to a spur; the lower bud for the purpose of making a new cane, the middle bud to be rubbed out, and the third bud for producing the fruit. The practice is to cut down to a single bud. The reason for leaving three buds is the simple fact that the third, fourth, fifth or sixth bud will produce larger and better fruit than the first or second.

Mignonette from Cuttings. — Having to grow Mignonette for winter boquets, a thought struck me to try cuttings: accordingly I went to work, got a quantity of cuttings, planted them in a 48-sized pot, and placed them in bottom heat. This was in September, and in a very short time all of them struck root. I then potted them singly in the same sized pots, and I flowered them in them. So satisfactory was this trial that I determined to strike another lot, but this time, however, I planted three cuttings in each pot of the size just named, so as not to disturb them by repotting, and now I have plenty of Mignonettes to cut from.

Downing's Ever-bearing Mulberry.—This remarkable variety of mulberry was produced a few years since from seed of the multicaulis, by that distinguished horticulturist, Charles Downing, of Newburgh, New York. It is a fruit of rare excellence, specimens being from an inch to an inch and a half in length, and half an inch in diameter, of a purplish-black color, and a rich, sprightly, sub-acid flavor. It is highly esteemed as a dessert fruit, and is excellent for pies and puddings. It is also preserved in the same manner as other small fruits, in which state it has been kept two years or more, perfectly retaining its flavor. The tree is very beautiful, thrifty, and perfectly hardy. The term "everbearing" has been applied to it on account of the unusual length of its fruiting season, which is about ten weeks, commencing just as the strawberry season is drawing to a close, or in this climate from the last of June to September. It requires no more care than an apple tree, and deserves a place in every garden.—[*Boston Cultivator.*

[Written for the Valley Farmer.]

A LESSON IN A POEM.

We presume no one conversant with the great reflectors of human nature in English literature, will deny Tennyson a high rank. Kingsley, in "Alton Locke," assigns him the first place in a knowledge of the female heart, which since then has been generally conceded. No where, perhaps, has Tennyson given a more truthful picture of the "passion"—as we often find it, especially among the timid—than in his

EDWARD GRAY.

Sweet Emma Moreland of yonder town,
Met me walking on yonder way—
"And have you lost your heart?" she said;
"And are you married yet, Edward Gray?"

Sweet Emma Moreland spoke to me;
Bitterly weeping I turned away:
"Sweet Emma Moreland, love no more
Can touch the heart of Edward Gray.

"Ellen Adair she loved me well,
Against her father's and mother's will:
To-day I sat for an hour and wept
By Ellen's grave on the windy hill.

"Shy she was, and I thought her cold;
Thought her proud, and fled over the sea;
Filled I was with folly and spite,
While Ellen Adair was dying for me.

"Cruel, cruel were the words I said!
Cruelly came they back to-day;
'You're too slight and fickle,' I said,
'To trouble the heart of Edward Gray.'

"There I put my face in the grass—
Whispered, 'Listen to my despair:
I repent me of all I did:
Speak a little, Ellen Adair!'

"Then I took a pencil, and wrote
On a mossy stone, as I lay—
'Here lies the body of Ellen Adair;
And here the heart of Edward Gray!'

"Love may come, and love may go,
And fly, like a bird, from tree to tree:
But I will love no more, no more,
Till Ellen Adair come back to me.

"Bitterly wept I over the stone:
Bitterly weeping I turned away:
There lies the body of Ellen Adair!
And there the heart of Edward Gray!"

As simple as the language of the passion itself. Verse is not in the way here—it labors not: like prose it gives you the picture, and you are impressed with the phase, which love so generally assumes. The "Miller's Daughter," by the same poet, is another painting of the same masterly strokes, a poem, it is said, which influenced the queen in her bestowal of the laureate-ship upon the poet—an argument in favor of her good Saxon taste. But "Maud" embodies the most of this kind of knowledge, hurt somewhat, it seems, by a slightly morbid tone. Shakespeare—who deals in generalities—is, doubtless, less close and minute in this department, than his modern successor, who may be relied on. F. G.

[Written for the Valley Farmer.]

MORNING.

How lovely is the morning. The sombre shades of night have departed, and the glorious sun has risen in his dazzling splendor, giving light and gladness alike to the inhabitants of the lofty mansion and the lowly cottage.

All nature rejoices in the return of morning. The woodland songsters warble forth their melodies in strains of the most enchanting sweetness. The delicate flowers lift up their drooping heads, while the diamond dewdrops sparkle on their fragrant leaves. The silvery ripples glide peacefully over the quiet lake. The zephyr breath of morning steals gently down the grassy vale, imparting health and vigor to the animate creation. The merry-hearted school-girl returns with invigorated powers of intellect to the prosecution of her daily tasks. The whistling plow-boy, with notes as varied as those of the bobolink, goes trudging to his hopeful toil.—The active man of business resumes his avocation with that energy and alacrity which is peculiar to this delightful portion of our time.

It is a pleasant thought that the morning is continuous, that it is ever dawning to gladden the hearts of some of earth's weary watchers, ever blending its sights and sounds of harmony, ever demanding the devotion of our hearts to Him who said, "Let there be Light," and there was light. AURORA.

GOLD PENS.—When you buy a gold pen, never buy a cheap one, for like cheap jewelry, it is worthless. Pay a round price to an honest dealer, and you will get a pen that will stick by you. You might as well attempt to get a dollar for fifty cents, as a dollar's worth of gold and diamond for the same, half price. Dealers are not so benevolent as that. F. G.

Tart words make no friends; a spoonful of honey will catch more flies than a gallon of vinegar.

SMALL BED CHAMBERS.

There is reason to believe that more causes of dangerous and fatal diseases are gradually engendered annually by the habit of sleeping in small unventilated rooms than have occurred from a cholera atmosphere during any year since it made its appearance in this country. Many persons sleep in an eight by ten room, which multiplied together, and this multiplied again by ten, for the highth of the chamber, would make just eight hundred cubic feet, while the cubic space for each bed, according to the English apportionment for hospitals, is twenty-one hundred feet. But more, in order to give the "air of a room the highest degree of freshness," the French hospitals contract for a complete renewal of the air of a room every hour, while the English assert that double the amount, or over four thousand feet an hour, are required. Four thousand feet of air every hour! and yet there are multitudes in the city of New York who sleep with closed doors and windows, in rooms which do not contain a thousand cubic feet of space, and that thousand feet is to last all night—at least eight hours—except such scanty supplies of any fresh air that may insinuate itself through little crevices by door or window, an eighth of an inch in thickness. But when it is known that in many cases a man and wife and infant sleep habitually in thousand feet rooms, it is no marvel that multitudes perish prematurely in cities; no wonder infant children wilt away like flowers without water, and that five thousand of them are to die in the city of New York alone during the hundred days which shall include the 15th of July.

Another fact is suggestive, that among the fifty thousand persons who sleep nightly in the lodging houses of London, expressly arranged on the improved principles of space and ventilation already referred to, it has been proven that not one single case of fever has been engendered in two years. Let every intelligent reader improve the teachings of this article without an hour's delay.—[*Hall's Journal of Health.*

DRESS AND MERIT.—Girard, the famous French painter, when very young, was the bearer of a letter of introduction to Lanjuinais, then of the council of Napoleon. The young painter was shabbily attired, and his reception was extremely cold—but Lanjuinais discovered in him such striking proofs of talent, good sense and amiability, that on Girard's rising to take his leave, he rose too, and accompanied his visitor to the ante-chamber. The change was so striking, that Girard could not avoid an expression of surprise. "My young friend," said Lanjuinais, anticipating the inquiry, "we receive an unknown person according to his dress—we take leave of him according to his merit."

CHARLES T. BROOKS.

Charles T. Brooks is our best translator of German poetry. Here is one of his "trans-creations," as Willis terms it:

THE WANDERING JEW.

The Wandering Jew once said to me,
I passed through a city in the cool of the year,
A man in the garden plucked fruit from a tree.
I asked, "How long has the city been here?"
And he answered me, and he plucked away—
"It has always stood where it stands to day,
And here it will stand forever and aye!"
Five hundred years rolled by, and then
I traveled the self-same road again.

No trace of a city there I found;
A shepherd sat blowing his pipe alone,
His flock went quietly nibbling round.
I asked, "How long has the city been gone?"
And he answered me, and he piped away—
"The new ones bloom and the old decay,
This is my pasture ground for aye!"
Five hundred years rolled by, and then
I traveled the self-same road again.

And I came to a sea, and the waves did roar,
And a fisherman threw his net out clear,
And when heavy-laden he dragged it ashore,
I asked, "How long has the sea been here?"
And he laughed, and he said, and he laughed away—
"As long as yon billows have tossed their spray
They've fished and they've fished in this self-same bay!"
Five hundred years rolled by, and then
I traveled the self-same road again.

And I came to a forest, vast and free,
And a woodman stood in the thicket near—
His ax he laid at the foot of a tree.
I asked, "How long have the woods been here?"
And he answered, "These woods are a covert for aye!
My ancestors dwelt here alway,
And the trees have been here since creation's day."
Five hundred years rolled by, and then
I traveled the self-same road again.

And I found there a city, and far and near
Resounded the hum of toil and glee,
And I asked, "How long has the city been here,
And where is the pipe, and the wood, and the sea?"
And they answered me, as they went their way—
"Things always have stood as they stand to day,
And so they will stand forever and aye!"
I'll wait five hundred years, and then
I'll travel the self-same road again.

And now for a greater than the German. Emerson thus treats the same subject in his peculiar, philosophical way, minus the stereotyped verse-flow of general poets.

HOMATREYA.

Minott, Lee, Willard, Hosmer, Meriam, Flint
Possessed the land which rendered to their toil
Hay, corn, roots, hemp, flax, apples, wool, and wood.
Each of these landlords walked amidst his farm,
Saying, "'Tis mine, my children's and my name's:
How sweet the west wind sounds in my own trees!
How graceful climb those shadows on my hill!
I fancy those pure waters and the flags
Know me, as does my dog: we sympathize;
And, I affirm, my actions smack of the soil."
Where are these men? Asleep beneath their grounds;
And strangers, fond as they, their furrows plow.
Earth laughs in flowers to see her boastful boys,
Earth-proud, proud of the earth which is not theirs;
Who steer the plow, but cannot steer their feet
Clear of the grave.

They added ridge to valley, brook to pond,
And sighed for all that bounded their domain.
"This suits me for a pasture; that's my park;
We must have clay, lime, gravel, granite-ledge,
And misty lowland where to go for peat.
The land is well—lies fairly to the south.
'Tis good when you have crossed the sea and back
To find the sitfast acres where you left them."
Ah! the lot owner sees not Death, who adds
Him to his land, a lump of mold the more.

This is but part of the poem, but shows the acuteness of the distinguished observer and reflector. The majority, however, will prefer the other poem (of Brooks), which indeed has the historical advantage of the noted Hebrew Traveler. But Emerson brings the matter to your own hearth! 'Tis good when we return to find the sitfast acres where we left them—forgetting Death! who adds us to this land, a lump the more, for others to plow through and own.

F. G.

"Be true to the Dream of thy Youth."

I was a merry, laughing child, and roamed without restraint in meadows green, and through grand old forests. I leaped in wild exstatic glee from rock to rock, that overhung the frowning precipice, and then I laid me down upon the brink and gazed far, far beneath me, on a foaming rivulet, which gaily bounded onward, now glistening a moment in the timid sunbeams so softly mellowed by thy sylvan shade, and now flowing silently through some deep recess, where bending trees were mirrored on its glassy surface, till again, free of restraint, it bounded on as madly as before. Tired of this, I sought the flowery vale, and gathered bright boquets, and bound them in my flowing hair, talking in fancy all the while with friends which fond imagination bade me think were round me! And were they not? when the soft zephyr gently fanned my brow, did I not hear their voices whispering in accents most endearing, words of love and fond regard to me, their brother? When I reclined upon some mossy mount, did they not watch me as I slept, and clasp my hands in theirs, and bear my fancy to the world of dreams? Whether in the "grand old woods," listening to its "songs and its songsters, its choirs and its chorusses," or on the shelly shore, listening to the deep murmuring music of the bounding billows, every where the same sweet voice whispered to my soul, and bade my heart rejoice! Nature was my teacher, and the flowers, the birds and the Angels, were my companions. They called me a strange child, and strove to check my foolish fancies, as they were wont to term them, but how could care o'ercloud the brow, when all was joy within? Why should the soul's pearly dew drops refuse to sparkle, when life's morning sun shines forth unclouded? Oh, childhood's happy visions! Oh, that we might retain them in our hearts when age lays his icy fingers upon us! Then were earth a paradise; selfishness and scorn no more should riot at their unholy banquet, and angels tears should fall less frequently on Love's tombstone!

How to Secure Peace at Home.

It is just as possible to keep a calm house as a clean house; a cheerful house, an orderly house, as a furnished house, if the heads set themselves to do so. Where is the difficulty of consulting each other's weakness, as well as each other's wants; each other's tempers, as well as each other's health; each other's comfort, as well as each other's character? Oh, it is by leaving the peace at home to chance, instead of pursuing it by system, that so many homes are unhappy. It deserves notice, also, that almost any one can be courteous, and forbearing, and patient in a neighbor's house. If anything goes wrong, or be out of time, or is disagreeable there, it is made the best of, not the worst; even efforts are made to excuse it, and to show that it is not felt; or, if felt, it is attributed to accident, not design; and this is not only easy, but natural, in the house of a friend. I will not, therefore, believe that what is so natural in the house of another is impossible at home; but maintain, without fear, that all the courtesies of social life may be upheld in domestic societies. A husband as willing to be pleased at home, and as anxious to please as in his neighbor's house, and a wife as intent on making things comfortable every day to her family as on set days to her guests, could not fail to make their own home happy. Let us not evade the point of these remarks by recurring to the maxim about allowances for temper. It is worse than folly to refer to our temper, unless we could prove that we ever gained anything good by giving way to it. Fits of ill humor punish us quite as much, if not more, than those they are vented upon; and it actually requires more effort, and inflicts more pain to give them up, than would be required to avoid them.—[*Phillip.*

A BRANCH OF CORAL—Here is a branch of coral which you know to be in its living state a colony of polypes. Each of these multitudinous polypes is an individual, and each exactly resembles the other. But the whole colony has one nutritive fluid in common. They are all actively engaged in securing food, and the labors of each enrich all. It is animal socialism of the purest kind—there are no rich and no poor, neither are there any idlers. Formerly, the coral branch was regarded as one animal—an individual; and a tree was and is commonly regarded as one plant—an individual. But no zoologist now is unaware of the fact that each polype on the branch is a distinct individual, in spite of its connection with the rest; and philosophic botanists are agreed that the tree is a colony of individual plants—not one plant.—[*Cornhill Magazine.*

He that can travel well afoot keeps a good horse.

He that falls in love with himself will have no rivals.

Against disease here the strongest fence is the defensive virtue, abstinence.

Domestic Department.

BLACKBERRY WINE.—There is no wine equal to the Blackberry wine when properly made, either in flavor or for medicinal purposes, and all persons who can conveniently do so, should manufacture enough for their own use every year, as it is invaluable in sickness as a tonic, and nothing is a better remedy for bowel diseases. We therefore give the receipt for making it.

"Measure your berries and bruise them; to every gallon adding one quart of boiling water. Let the mixture stand twenty-four hours, stirring occasionally; then strain off the liquor into a cask, to every gallon adding two pounds of sugar; cork tight, and let it stand till the following October, and you will have wine ready for use without further straining or boiling, that will make lips smack as they never smacked under similar influence before."

The following receipt for making this wine, so-called, is from Mrs. Hale's New Cook Book:

"To 5 gallons ripe blackberries, add 7 pounds of honey and 6 gallons of water; boil, strain, and leave the liquor to ferment; then boil it again, and put it into a cask to ferment."

The first receipt, it will be perceived, says nothing about the FERMENTATION, which is very important to be attended to, and which, unless it is, may burst the cask and spill the wine.

RASPBERRY VINEGAR.—Put a pound of very fine ripe raspberries in a bowl, bruise them well, and pour upon them a quart of the best white wine vinegar; next day strain the liquor on a pound of fresh ripe raspberries, bruise them also, and the following day do the same, but do not squeeze the fruit, or it will make it ferment; only drain the liquor as dry as you can from it. The last time pass it through a canvas bag previously wet with the vinegar, to prevent waste. Put the juice into a stone jar, with a pound of sugar to every pint of juice; the sugar must be broken into lumps; stir it, and when melted, put the jar into a pan of water; let it simmer and skim it; when cold, bottle it; it will be fine and thick when cold, like strained honey, newly prepared.

CURRANTS PRESERVED.—Take ripe currants free from stems; weigh them and take the same weight of sugar; put a teacup of water to each pound of it; boil the sirup until it is hot and clear; then turn it over the fruit; let it remain one night; then set it over the fire, and boil gently until they are cooked and clear; take them out of the jars or pots with a skimmer; boil the sirup until rich and thick; then pour it over the fruit. Currants may be preserved with ten pounds of fruit to seven of sugar. Take the stems from seven pounds of the currants, and crush and press the juice from the remaining three pounds; put them into a hot sirup, and boil until thick and rich; put it in pots or jars, and the next day secure as directed.

PICKLED CUCUMBERS.—Wash your cucumbers very clean; make a pickle of salt and water sufficiently strong to float an egg, and pour it over them. Put a weight on the top of the vessel to keep the cucumbers under the brine, and let them stand nine days; then take them out and wash them in fresh water. Line the bottom of the kettle with green cabbage leaves, put in your pickles, and as much vinegar and water, mixed in equal quantities, as will cover them. Put a layer of cabbage leaves on the top. Hang them over a slow fire; let the water get hot, but do not allow them to simmer, as that would soften them. When they are perfectly green, take them out and let them drain. Wipe them dry, put them in jars with some allspice, cloves, and a few small onions, or cloves, or garlic. A piece of alum in each jar will keep them firm. Cover your pickles with the best cider vinegar—tie them close and keep them in a cool, dry place By adding one tablespoonful of sugar, it will be found a great improvement.

RED CURRANT JELLY.—With three parts of fine, ripe, red currants, mix one of white currants; put them into a clean preserving-pan, and stir them gently over a clear fire until the juice flows from them freely; then turn them into a fine hair sieve, and let them drain well, but without pressure. Pass the juice through a folded muslin or a jelly bag; weigh it, and then boil it FAST for a quarter of an hour; add for each pound, eight ounces of sugar, coarsely powdered; stir this to it, off the fire, until it is dissolved; give the jelly eight minutes more of quick boiling, and pour it out. It will be firm, and of excellent color and flavor. Be sure to clear off the scum as it rises, both before and after the sugar is put in, or the preserve will not be clear. Juice of red currants, three pounds; juice of white currants, one pound; fifteen minutes. Sugar, two pounds; eight minutes. An excellent jelly may be made with equal parts of the juice of red and of white currants, and of raspberries, with the same proportion of sugar and degree of boiling as mentioned in the foregoing recipe.

WHITE CURRANT JELLY.—White currant jelly is made in the same way as red currant jelly, only it should have double-refined sugar, and not be boiled above ten minutes. White currant jelly should be put through a lawn sieve.

PICKLED TOMATOES.—Take a peck of tomatoes—the small ones are best—wash them, pierce each one with a fork, put them in a deep pan, and sprinkle salt between each layer. Let them stand two days, then rinse them in clear water. Put them in stone jars, cover with vinegar and water in equal parts, and let them remain till next day. Allow one gill of mustard seed, half an ounce of cloves, half an ounce of pepper grains, half an ounce of whole allspice, with two heads of garlic. Separate the garlic, and take off the skins. Take the tomatoes out of the vinegar and water, empty the jars, put the pickles into them again alternately with the spices, until the jars are three parts full.—Then cover with cold vinegar, and cover close.

PICKLED GREEN TOMATOES.—Puncture the tomatoes with a fork, place them on a dish, and sprinkle with salt. Let them remain for two or three days, then rinse off the salt in clear water; put them in a preserving kettle, cover them with water, which keep scalding hot for one hour; then take them out, let them drain, and put them in jars.

Boil the vinegar with some cloves, allspice, and stick cinnamon. When cold, pour over sufficient to cover them.—["Widdifield's Cook Book."

HOW TO MAKE CIDER WINE.—J. H. Keck, of Macon Co., Ill. gives the following method in the "Country Gentleman":

Take pure cider, made from sound, ripe apples, as it runs from the press, put 60 pounds of common brown sugar into 15 gallons of the cider, and let it dissolve; then put the mixture into a clean barrel, fill it up within two gallons of being full, with clean cider; put the cask into a cool place, leaving the bung out for forty-eight hours; then put in the bung with a small vent, until fermentation wholly ceases, and bung up tight, and in one year it will be fit for use. This wine requires no racking; the longer it stands upon the lees the better. This wine is almost equal to grape wine when rightly managed.

GREEN CORN PUDDING.—This is one of the numerous luxuries which the farmer can enjoy with but little expense or trouble. For making it, take twelve ears of green corn, full in the milk and grate it. To this add one quart of sweet milk, one-fourth of a pound of fresh butter, four eggs well beaten, pepper and salt as much as may be deemed necessary. Stir the ingredients well together, and bake in a buttered dish. Some add a quarter pound of fine sugar, and eat with sauce.

Editor's Table.

Trial Subscribers at Half Price.

In order that the public may become better acquainted with the merits of the "Valley Farmer," we have determined to make the following liberal offer. We will send all the numbers for the present year (1862) at half price—only fifty cents. Our present subscribers will confer a favor by making known to their neighbors and friends these very liberal terms. We are satisfied that those who read the "Farmer" one year will never consent to be without it hereafter—hence our proposition.

Fruits at St. Genevieve, Mo.

The following is contained in a private letter:

Wilson's Albany strawberry began to ripen here 15th May. Jenny Lind a week earlier. The finest strawberry I have is the much abused Peabody; I have only a few dozen vines on very poor ground; they do not bear much, but the berries are very large, sweet and fine-flavored. I intend to take care of the few I have, and this fall get them into good ground. My peaches look fine, and will be large. I shortened in all my trees last year and year before. Cherries are a failure this season. Will have some German prunes. Used the whale oil soap wash; no curculio since; it is death to cabbage lice, and all kinds of garden insects, rose slugs and bugs. I got P. E. Blow, of St. Louis, to send for some to New York.

St. Genevieve, Mo. Yours truly, C. C. Z.

B. M. Hughes, Esq., Atchison, Kansas, wishes to know where he can procure Mushroom "Bricks," and Bantam Chickens. Those having them to sell will address him as above.

Large Strawberry.

Wm. M. King, Esq., of St. Louis, visited our grounds during our absence, and upon our return we found the following note:

Norman J. Colman, Esq.—I this day picked from your vines a Triomphe de Gand Strawberry, which measured five and one-half inches in circumference—both ways—horizontally and perpendicularly.

Yours Respectfully, WM. M. KING.

We have raised larger strawberries than the one referred to, but many doubt that they are ever raised of this size. The berry alluded to was carefully and accurately measured in the presence of Mr. Thomas W. Donahoe, who has charge of our greenhouses; both gentlemen are entirely reliable.

Coal Oil Taper Lamp.

We have on our table a new and simple invention in the shape of a very small handle lamp to burn coal oil, and go about the house with it as you would with a candle, only it gives more light, and can be increased or diminished at pleasure. The cost of burning is only 5 cents for 100 hours, and its adoption in every house in the land is certain and speedy. A sight of it is sufficient inducement to get one. G. W. CURTISS, No. 7 South 5th Street, between Market and Walnut, St. Louis, is selling these lamps, as also coal oil and every variety of lamps at wholesale and retail.

St. Clair County Agricultural Society.

We understand the Executive Board of our County Agricultural and Mechanical Society, at their meeting last week, finished up their Premium List for next Fair, and appointed all the Superintendents and Committees.

The general Premium List is pretty much the same as last year, but the Citizens' Purses as sweepstakes in the horse, cattle, hog and agricultural machinery departments, add a new and very interesting feature to our next Fair. The fair will be four days—and held on the 7th, 8th, 9th and 10th days of October

We understand that an arrangement has been made between our officers and the officers of the Societies of Monroe, Randolph and Washington counties that the Fairs of their counties may not come in conflict. We hope that our Fair and the County Fair of Madison may not interfere with each other. We want to see GREEK meet GREEK and give us in true style the TUG of fine trotting.

We venture the assertion that our Premium List will be the most attractive Premium List in the State, and predict the next Fair as the Fair of the year.—[Belleville Democrat.

☞ OFFICERS OF THE MARION COUNTY (ILL.) AGRICULTURAL SOCIETY FOR THE YEAR 1862.—President, Samuel E. Stevenson; Vice-Presidents, Alex. Miliken, Daniel Myers, James Wilson, Reuben Metcalf; Rec. and Cor. Secretary, E. L. Merritt; Treasurer, Jas. S. Martin; Managers, C. W. Webster, Amos Duffield, Solomon Siple, W. Perriman, Urial Mills; Delegates to State Society, C. W. Webster, J. M. Oglesby.

Blackberry Wine.

ED. VALLEY FARMER: In the June number of the "Valley Farmer" I see directions for making Blackberry Wine, equal in value to Port. From what experience I have had I think it would be very apt to make good vinegar. Grapes are the only fruit that I know of that will make good wine without adding sugar; and where sugar is to be added the sooner it is done after the juice is pressed out the better.

My rule is, to the juice of 25 gallons blackberries 110 lbs. sugar to a 40 gallon cask; the balance water. I use a portable cider mill; run the berries through it, and then press them the same as in making cider. The 25 gallons will give about 17 gallons juice, if good Lawton berries are used. Weigh the sugar, put it in a tub and dissolve it with water. When dissolved put in the cask, and add the juice as fast as it comes from the press. As soon as the cask is full, put it in a cool cellar, and let it ferment as long as it will, which will be from 6 to 8 weeks; then bung it tight. Some use warm water to make it ferment quick, but I have had it to commence to ferment so as to blow the bung out, in rolling from the house where it was made to the cellar, a distance of 30 yards, with cold water.

Eureka, St. Louis Co. Mo. JOHN S. SEYMOUR.

ED. VALLEY FARMER: What shall I do for my Peonies? I have some very fine thrifty ones which send forth a profusion of buds every spring. These develop themselves until the largest are about half an inch in diameter, when they are attacked and literally devoured by ants. They have not produced one perfect blossom in three years. FLORA.

Whale Oil soap-suds well sprinkled upon the plants is the best remedy we know of.—[Ed. V. F.

Will some one be kind enough to tell us about the culture of the Grey Willow? The best time and method of planting the slips. The time and manner of pruning, both for hedge, and for forest?

SUBSCRIBERS.

Wheat Prospects.

Until the latter part of May, everything gave promise of an abundant yield of wheat throughout the Western States. But since that time a considerable change has come over the face of affairs, and the flattering statements then made by ourselves and others must be materially modified for a considerable section of country. The weather has not, on the whole, been favorable, and destructive insects have made their appearance in various quarters. We have before us reports from more than twenty counties in this State and Iowa, giving alarming accounts of the ravages of the Hessian fly and Chinch bug. Many fields are being plowed up and planted with other crops, and a large number of acres not so treated will be left uncut. In the southern part of this State, the leaf rust has appeared, but its damage yet has not been great.

It is possible the fears of farmers in some localities are in a measure exaggerated, but we confess to considerable alarm to the crop from insects. The dry, warm weather succeeding the wet and cold of the past few weeks is favorable to the development of these pests, and where existing in great numbers, desolating work may be expected.

It is gratifying, however, that discouraging causes do not exist everywhere. From Kansas, the news is exceedingly encouraging. The weather, for the most part, has been exceedingly favorable for wheat, and a few weeks continuance will place it beyond all danger. No complaint reaches us from Minnesota or Wisconsin.

Corn planting has generally been backward, but the months upon which this crop is most dependent have not yet arrived, and there is no cause for discouragement in a late planting, merely.—[Prairie Farmer.

THE AGE OF THE GUANO DEPOSITS.—Mons. Boussingault, the celebrated French chemist, in a late paper contributed to the Academy of Science, shows that the age of modern alluvions does not extend beyond historical times, whereas old alluvions date from the period immediately preceding that at which man first began to inhabit the earth; so that the guanæs or cormorants, and other allied birds, which deposit guano, must have existed thousands of years before man, seeing that the lower layer of guano is sometimes fifteen or twenty yards in depth, while the old alluvial crust above it has a thickness of upward of three yards.

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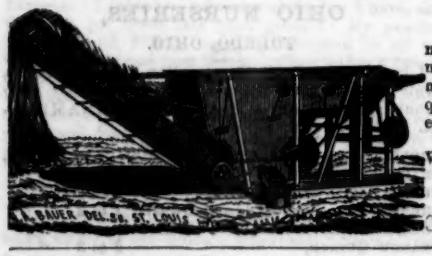

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